Does direct democracy mean more equal democracy?

A study of government responsiveness in advanced democracies

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Abstract

As it constitutes a main feature of contemporary democracy, government responsiveness has provided the basis for large a body of literature, usually finding that public policy tends to reflect the preferences of citizens. However, more recent research has found representational bias in that policies tend to be considerably more responsive to the preferences of the rich than to those of the poor, meaning that the democratic principle of political equality is violated. This has highlighted the need to further examine what the factors and causal mechanisms behind such differential responsiveness are. Since they decide how political preferences are translated into policy, institutional structures are expected to affect the extent to which public preferences are represented and to whose preferences policies are responsive to. Direct democratic institutions have raised attention in this respect because they may incentivise citizens to engage more in politics and the possibility of popular referendums may force representatives to consider potential vetoes from the population. On the other hand, direct democracy may also enhance representational inequalities because the rich are better positioned to take advantage of such institutions. To investigate whether direct democracy affects representational inequalities based on income, I construct an original dataset where I link ISSP survey data with corresponding public spending data. The dataset covers 26 advanced democracies over 5 time points in the period 1985-2016 and is analysed using time-series cross-sectional methods. In line with previous research, I find that governments tend to be responsive to the preferences of citizens, but that this responsiveness is tilted towards the preferences of the rich. Furthermore, I find that direct democracy has no significant impact on general responsiveness or inequality in terms of representation.

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1. Introduction

1.1 Research question

Robert A. Dahl (1971, 1-2) stated that "a key characteristic of a democracy is the continuing responsiveness of the government to the preferences of citizens, considered as political equals." A vast literature on the opinion-policy link have usually shown that governments in advanced democracies are indeed fairly responsive to the preferences of citizens (Erikson, MacKuen, and Stimson 2002; Hobolt and Klemmensen 2008; Soroka and Wlezien 2010; Kang and Powell 2010). However, contrary to the democratic principle of political equality, contemporary society is characterized by concentration of wealth and economic power. This becomes problematic, in democratic terms, if this skewed income distribution also translates into inequalities in who gets what they want politically. In recent years, scholars have endeavoured to learn more about the consequences of economic inequality for political inequality. A growing quantitatively oriented literature has indicated that governments are disproportionally responsive to the preferences of the rich (Gilens 2012; Peters and Ensink 2015; Bartels 2016; Schakel, Burgoon, and Hakhverdian 2020).

In addition to investigating the extent of the representational inequalities, scholars have strived to account for why the rich are better represented than the rest. The main explanations presented in the literature are that the rich are more likely to participate in politics (Griffin and Newman 2005), they are disproportionally included in legislative assemblies (Carnes 2013), and they benefit due to the role of money in politics (Mahoney 2007; Scarrow 2007). Political institutions also play a central role in the way in which political preferences are aggregated to public policy (Powell 2004). Therefore, the empirical literature on the opinion-policy link has emphasized the role of institutional set-up for congruence between public opinion and policy (e.g. Soroka and Wlezien 2010; Golder and Stramski 2010). Furthermore, focus on the impact of political institutions for policy representation has been extended to studies that examine the effect of institutions on inequality in representation according to income (Flavin 2014; Bernauer, Giger, and Rosset 2015). In this thesis, I contribute to the literature by examining the effect of direct democracy on unequal responsiveness caused by income.

By giving citizens a direct say on public policy, institutions of direct democracy may help to ensure that they get the policies they want. In countries with strong direct democratic

mechanisms, politicians may anticipate potential vetoes against their policies, thus forcing them to pass policies more approximate to the preferences of the median voter (Neidhart 1970; Gerber 1996). Direct democracy could also assure that citizens are more equally represented because it can increase political engagement (Pateman 1970; Boehmke and Bowen 2010) and shift power in policymaking processes from the political and economic elites toward ordinary citizens (Flavin 2014, 120). On the other hand, the less privileged groups could be disadvantaged because of the higher costs of participation and organization of initiative campaigns (Kern and Hooghe 2018). Direct democracy could thus also have the opposite effect, increasing representational inequalities caused by income. This thesis aims to add to the existing literature by investigating representational inequalities according to income and how direct democratic institutions potentially affect who gets represented. As such, my main research question is:

Do institutions of direct democracy moderate unequal responsiveness according to income?

Investigating this research question also leads me to investigate three sub-questions. I start out with examining whether policy output is associated with the preferences of citizens. The first sub-question is therefore: 1) *Is government policy overall responsive to the preferences of citizens?* Further, previous empirical work has shown that policy is more congruent with the preferences of the rich than those of the lower income groups. This leads me to ask the following second question: 2) *Is government policy unequally responsive to citizens on the basis of income?* Furthermore, since I seek to extend the literature by investigating the effect of direct democracy for representation, the final question that we will be investigated is: 3) *Do institutions of direct democracy affect overall responsiveness?*

1.2 Motivation for research question

One of the main justifications for democracy is that it is essential in protecting the interests of those who are subject to the regulations or actions of a state, meaning that government should to some extent act in accordance with how the majority want it to act (Dahl 1989, 93-95). Moreover, given that we judge all human beings as equal and presume that each adult is the best judge of his or her own interests, the government should give equal consideration to the interests of its citizens (Dahl 1989, 85-88, 100). However, since resources that flow from one's position in the economic order can be converted into political resources, such procedural

equality is only attainable to the extent that economic resources are equally distributed (Dahl 1996).

The prevailing market capitalist economic order has not provided the distribution of resources required to reach the goal of political equality. Inequalities of both wealth and income within advanced democracies have increased rapidly in later decades and are expected to grow further in a business as usual scenario (Alvaredo et al. 2018). Growing inequality has shown to be detrimental in several ways. Not only have more unequal societies proved to foster greater inequality in representation (Rosset, Giger, and Bernauer 2013), they also score worse on a wide range of indicators covering crime, health, environmental protection, interpersonal trust, and quality of life (Wilkinson and Pickett 2010; Lijphart 2012).

The democratic deficit resulting from economic inequalities is not only threatening the intrinsic value of people having an equal say on policy, but also threatens the interests and welfare of broad societal groups because they are undermined by the interests of more affluent citizens. Gross political inequality caused by economic inequality may even potentially lead to vicious cycles (Bartels 2016, 345): Inequality in political responsiveness may in turn result in policies detrimental to the interests of less affluent citizens, so that economic inequalities are reinforced, which in turn leads to more political inequality. The potential implications that a representational bias fostered by income inequality may have for democracy makes it a highly relevant topic for scientific inquiry. It is crucial to get to know more about the mechanisms explaining how societies with substantial levels of economic inequality bring about more severe unequal representation and how this problem can be alleviated.

Numerous studies have sought to understand more about the effect of institutions, such as electoral systems and federalism, on government responsiveness to citizen preferences (J.D. Huber and Powell 1994; Soroka and Wlezien 2010; Golder and Stramski 2010). Meanwhile, interest for more participatory forms of democracy have increased both in the academic and political sphere. A 2017 Pew Research Center survey covering 38 countries showed that 66 % of the respondents embraced direct democracy as a good way of making decisions on the national level (Wike et al. 2017). Direct democracy has also gained attention in the research on responsiveness as there are good reasons to expect such institutions to bring forward policies that are more congruent with want people want. The fact that people who perceive their representatives as less responsive tend to be more favourable towards referendums as a way of making decisions indicates that this expectation is prevalent among citizens as well (Rose and

Weßels 2020). New opportunities to take part in politics may increase political engagement (Pateman 1970; Boehmke and Bowen 2010). Moreover, citizens are given a way of influencing policy directly and can thus circumvent and veto decisions made by political elites potentially biased in favour of the interests of the rich (Flavin 2014). On the other hand, some note that the higher costs of participation associated with direct democracy may be detrimental for the political participation of lower socioeconomic groups (Kern and Hooghe 2018) and that wealthy organizations may use the mechanisms of direct democracy to pursue their own narrow interests (Gerber 1999). It is thus also a possibility that representational inequalities are enhanced.

There are signs showing consolidated democracies deconsolidating (Foa and Mounk 2016), and lack of representation for large societal groups as a result of economic inequality is a further threat that could increase distrust towards democratic institutions. The factors that allow some groups to have considerably more say on policy than others should therefore be examined closely in order to find ways to alleviate gross political equality. The design of political systems may partly account for cross-national variation in representation. Yet, in a time when economic inequality has become more prominent on the research agenda, only a modest number of studies have sought to investigate the role of different political institutions for unequal representation. What is more, studies on the implications of institutions of direct democracy on unequal responsiveness are virtually non-existent. I aim to fill this gap in the literature.

1.3 Contribution

To expand the literature, I construct an original dataset consisting of aggregated survey data and macro level data covering a broad range of advanced democracies over time. Through survey data, I gain insight into whether the citizens in a given country-year would like to spend more or less compared to current expenditure levels on eight different areas of government. This is linked to corresponding spending data. I can thereby investigate the first question regarding whether government policy is responsive to the preferences of citizens by exploring whether average preferences are associated with policy. The second question of whether responsiveness is unequally distributed is then examined by scrutinizing whether policy is significantly stronger associated with the preferences of some income group than another. Finally, I exploit the institutional variation implied by the broad comparative approach to consider the main question of whether direct democracy affects responsiveness and political inequality.

The analysis finds a robust relationship between policy preferences and policy output, suggesting that governments are responsive to the preferences of citizens. In addition, I show modest variation in responsiveness across the eight issue domains covered in this thesis. Though there is a relationship between what the people want from the government and what they get, in line with previous studies, the results show that government is unequally responsive to the preferences in such a way that the rich tend to be better represented than the poor and the middle-income group. Further, I find that direct democratic institutions have no discernible effect on the degree of responsiveness. What is more, the observed differential responsiveness is neither alleviated nor increased in contexts where such institutions are present.

1.4 Structure

In chapter 2 I give a broad overview of the literature on the opinion-policy link. First, I provide a short introduction of the concept of representation and responsiveness. Then, to give the reader an overview of the literature, I elaborate on a variety of methodological efforts to study of congruence and responsiveness. Thereafter, I review previous studies focusing on the effect of institutional set up on responsiveness before connecting the goals of this thesis to the existing literature.

In chapter 3 I introduce the theoretical background for the opinion-policy link and elaborate on why the median voter theorem is inadequate in explaining this link. Subsequently, I outline arguments for why unequal responsiveness is expected before expanding the theoretical framework by including a veto player perspective. Then, after conceptualizing direct democracy, I argue how direct democratic institutions should affect government responsiveness and who gets represented. Along the way, I derive hypotheses that will be tested later in the thesis.

In chapter 4 I introduce the dataset I have constructed in order to conduct the analyses, which implies a discussion of the included variables, where I collected the data and how they are measured. Further, I discuss the methodological approach, regression assumptions and estimation techniques before making some considerations on causal inferences.

Chapter 5 is devoted to presenting the results of this study. The results will be presented in the same order as chapter 3 and follow the main and sub-research questions I outlined in this chapter. I first consider general policy responsiveness, with a sidestep to issue responsiveness,

before I investigate whether responsiveness is equally distributed between income groups. Then, I examine whether institutions of direct democracy affect general responsiveness or gaps in responsiveness.

Finally, in chapter 6 I discuss the findings, conclude, and suggest new paths for research on the topic.

2. Literature review: Representation, unequal responsiveness, and institutions

In this chapter, I first provide a description of the concepts of democratic representation and responsiveness. Then, I elaborate on different ways of studying congruence and responsiveness and the general results of these studies. Furthermore, I elaborate on the literature focusing on unequal representation by income as well as the link between institutional set up and responsiveness. Finally, I explain how this thesis contributes to the responsiveness literature.

2.1 Democratic representation and responsiveness

The core characteristic of representative democracy is delegation of powers to elected representatives that act on behalf of the citizens. Representation is thus central to contemporary democracies. Further, one central element of democratic representation is that representatives act in the interest of the represented, in a manner responsive to them (Pitkin 1967, 209; Dahl 1971, 1). In other words, the preferences of the citizens should be incorporated into policies that govern them. However, congruence between preferences and policy is not the only consideration that has to be made when governing. Responsiveness should not keep representatives from acting in a *responsible* manner, meaning that they keep up efficiency of government and that other norms of democracy are followed (Mair 2009). Moreover, the Burkean view of representation emphasizes that the wishes of citizens may be different from their "true" interests. Representatives may be justified to pursue these interests despite disapproval from the citizens. However, if this view is pushed too far, we leave the realm of representation. Therefore, at a minimum, governments should act responsive in a manner such that "political leaders must not be found persistently at odds with the wishes of the represented without a good explanation of why their wishes are not in accord with their interest" (Pitkin 1967, 210).

Representation is mainly expected to occur in two ways. The first way is through elections where citizens select like-minded politicians who then deliver policies in line with the preferences of the voters. This is what Mansbridge (2003) refers to as promissory representation. Politicians make promises to constituents during election campaigns and the winning candidates put their programs into place during their mandate. If they fail to keep their promises while incumbent, they risk being punished at the polls during the next election. The

second way of representation is direct and implies that politicians in office respond to changing public preferences. Politicians must then endeavour to adjust policy according to public opinion because if they fail to respond to citizen preferences during their incumbency, they risk losing the upcoming election. This is what Mansbridge (2003) calls anticipatory representation, which is the kind of representation that I am mostly concerned with in this thesis.

There is a long tradition of studying the opinion-policy link using a variety of methodological approaches. Next, I give a broad overview of this realm of research and discuss previous approaches and findings. I start by discussing studies investigating government responsiveness in general, before reviewing the responsiveness literature focusing on inequality of responsiveness and the role of institutions. Finally, I link previous findings with this thesis by providing an explanation for how this study contributes to the literature.

2.2 Ideological congruence and dyadic representation

A great part of the literature on the opinion-policy linkage is focused on congruence: the statistical examination of overlap between citizens and their representatives' ideologies, policy positions, or issue priorities (Beyer and Hänni 2018, 15). Many studies examine the link between citizens' preferences and positions of political actors, i.e. preference congruence. The preference congruence literature is often focused on ideological congruence where the self-placements the citizens on the left-right scale is connected to the ideological position of political parties. These types of studies support the existence of a match between preferences of citizens and positions in parliaments (Huber and Powell 1994; Powell 2009; Golder and Stramski 2010; Belchior 2010).

Another approach to studying responsiveness was introduced by Miller and Stokes (1963) already in the 1960s. They investigated to what degree US Congressmen's roll-call behaviour, in addition to their views, reflected the views of the citizenry. This study gives the first example of what is referred to as the "dyadic representation model" (Weissberg 1978), perhaps the most prevalent approach to studying the opinion-policy linkage in the US. The dyadic approach involves examining the relationship between individual constituencies and the behaviour (typically roll call votes) of individual representatives across political units. When behaviour of representatives and preferences of constituencies line up, there is indication that constituencies are represented.

The study by Miller and Stokes (1963) showed modest links between opinions of voters and roll-call behaviour of American congressmen. However, these links varied by issue domains. While the influence-path through the representative's perception of public opinion was proved important in explaining roll-call votes relating to civil rights, public opinion was much less important for foreign policy. The suggestion that representation is unevenly distributed across issues has also been supported by later studies (Wlezien 2004; Hobolt and Klemmensen 2005, 2008; Bernardi 2018). The dyadic representation literature has been extended over the years with a variety of methodological assumptions and different measures of public opinion and behaviour of representatives. The studies have typically found strong evidence of an opinion-policy linkage in the US (Achen 1978; Bartels 1991; Ansolabehere, Snyder, and Stewart 2001).

2.3 Policy responsiveness

In more recent years, scholars have been looking at how public policy output follows public opinion. Hence, they focus on policy output rather than visible behaviour of representatives. This view also implies focus on the dynamic representation implied by anticipatory representation (Stimson, MacKuen, and Erikson 1995; Erikson, MacKuen, and Stimson 2002). The logic here is that preferences of citizens change over time and that the policymakers are incentivized to act accordingly by elections. Moreover, the idea of dynamic responsiveness is related to the reciprocal relationship between public opinion and public policy.

According to Easton (1965), there is a feedback loop consisting of public preferences and policy output which is necessary for the functioning of the political system. The public preferences that are visible for the incumbent government produces policy outputs that again feed back to public opinion. Thus, government responsiveness rests on the ability of citizens to respond to changes in policy because without it politicians would not have incentives to represent them. Wlezien (1995) moved further down this path and found that the public preferences adjust to policy like a thermostat. For instance, support for more spending on space exploration will adjust downward as spending increases, while support for spending will increase if spending decreases. This two-way relationship between opinion and policy is thus a critical component of responsiveness and marks the difference between dynamic and static representation.

One approach to studying policy responsiveness is exemplified by Page and Shapiro (1983) who examined changes over time in public preferences and the corresponding changes in

policies. This way of studying responsiveness could for instance mean examining how public support for spending on space exploration changes between two time points and check if actual spending on space exploration corresponds to public opinion between these time points. Another approach to studying policy responsiveness was utilized by Monroe (1979) who compared preferences for policy change expressed at one time point with subsequent government policy changes. For instance, if the public expresses that they want to cut spending in space exploration at one time point, does spending decline in the following years?

In their seminal work, Erikson, MacKuen, and Stimson (2002) took this approach in developing a global model of the impact of opinion and policy across a wide range of issues. Rather than focusing on individual policy issues, they used a broad measure of "public mood" for government spending in addition to a corresponding broad measure of government policy (they also investigated policy activity or dyadic representation). They found a very strong influence of public mood on policy.

2.4 Unequal representation

In recent years, scholars have not only studied to what extent representatives are responsive to preferences of citizens but have also paid a great deal of attention to representational inequalities. The implications of economic inequalities has in particular gained attention, especially in US. Gilens (2005, 2012), using a similar approach to study responsiveness as Monroe (1979), find that it is mostly the wealthy who get their preferences fulfilled in the form of policies. The observed inequalities are striking when preferences of different income groups diverge substantially as it indicates no influence whatsoever on public policy for the low-income and middle-income groups. In another study, Jacobs and Page (2005) addresses preference congruence regarding US foreign policy and identify internationally oriented business leaders as the group with the heaviest influence while the preferences of the public are considerably less important.

Another important contribution is made by Bartels (2016), who takes a dyadic approach where he matches people's preferences and roll-call votes in the US Senate. Both the low- and middle-income constituents prove to be systematically underrepresented compared to high-income constituents. This result is also supported in a similar study of roll-call votes by Hayes (2013). Moreover, Flavin (2012) investigates policy representation by looking at specific social policies

and liberalism of political outputs and finds that low-income citizens tend to be worse represented than high-income citizens. In addition, Carnes (2013) finds that the working class, that have more progressive stances in comparison to other groups, is descriptively underrepresented in Congress. He also provides evidence that a weak presence of working class representatives in Congress leads to the enactment of less progressive policies (Carnes 2013, chapter 5). Scholars have also wondered about the influence of the super-rich, but limited availability of data has restricted investigation of this. Page, Bartels, and Seawright (2013), however, show that the top 1% of wealth holders holds preferences that are particularly conservative in comparison to popular preferences and suggest that this might help account for why policies often seem to deviate from preferences of US citizens.

On the other hand, some have argued that the representational differences based on income have been overestimated. For instance, using indicators of political mood and political activity developed by Erikson, MacKuen, and Stimson (2002), Ura and Ellis (2008) find no differences between income groups and argue that this is either because representatives cannot discern between differences in preferences across income groups or that all income groups simply are equally represented. Moreover, Branham, Soroka, and Wlezien (2017) find that preferences of different groups often overlap and when they diverge, the rich only somewhat more often get what they want. Furthermore, the overlap of preferences of the middle class and the rich (coincidental representation) is emphasized by Enns (2015) who also finds that the middle class often get what it wants.

However, Gilens (2015, 1065) replied that "there simply is not enough coincidence of policy outcomes and middle-class preferences to justify the conclusion that middle-income Americans are likely to be satisfied with the policies their government adopts." Gilens also emphasizes that "democracy by coincidence" is an insufficient substitute for true democratic responsiveness to the preferences of citizens. In sum, although the literature sometimes diverges, especially on the influence of the middle class, it generally indicates considerable bias in representation in the US in favour of the rich.

Although most research on this topic has been concerned with the US, there are also a growing body of literature that finds representational inequalities in other advanced democracies. Through a preference congruence study with focus on the Swiss parliament, Rosset (2013) found that the rich are better represented than the poor. There has also been conducted studies with similar analytical framework to the study by Gilens (2012) in Germany and the

Netherlands, where we would expect responsiveness to be more equally distributed. This is because money is less dominant in politics in these countries, while public funding of parties (Koss 2010, 2) and regular membership contributions (Nassmacher 2009) are more important. However, Elsässer, Hense, and Schäfer (2018) show that the influence on policy change of the 10 percent richest compared to other income groups in Germany is similar to the influence of the richest 10 percent in the United States (Gilens 2012), and a study by Schakel (2019) in the Netherlands also show similar results.

Some studies have also taken comparative approaches involving numerous countries. According to a study focusing on ideological congruence in 24 democracies by Rosset, Giger, and Bernauer (2013), the poor are worse represented in political parties and the government, and they find that this inequality is reinforced within countries where inequality is higher. Also focusing on European countries, Peters and Ensink (2015) find that government welfare spending is more responsive to the preferences of the richest 33% compared to the poorest 33%. Similarly, Bartels (2015, 2017) also demonstrate that social spending is less responsive towards the poor in comparison to the rich. Another study by Lupu and Warner (2019) on 52 countries over 33 years shows that legislators' ideology and policy preferences on economic issues are more congruent with those of the rich. Finally, a recent study focusing on spending and generosity on welfare state issues supports the notion of substantial representational bias (Schakel, Burgoon, and Hakhverdian 2020).

2.5 Institutional set up and responsiveness

In addition to studies of the extent of congruence and responsiveness, a large body of work has been dedicated to investigating the role of political institutions. Many of these studies have concerned themselves with the effect of different electoral systems on congruence (e.g. J.D. Huber and Powell 1994; Hobolt and Klemmensen 2005; Powell 2009; Kang and Powell 2010; Golder and Stramski 2010; Wlezien and Soroka 2012). Scholars have also investigated whether vertical and horizontal division of powers may enhance or weaken the opinion-policy linkage (Hobolt and Klemmensen 2008; Wlezien and Soroka 2010, 2012; Rasmussen, Reher, and Toshkov 2018).

Although some have studied the effect of institutions on policy responsiveness towards the general public's preferences, fewer studies have sought to investigate whether such institutions

affect responsiveness towards the preferences of particular economic groups. A notable exception is made by Bernauer, Giger, and Rosset (2015). In an ideology congruence study, they found that more proportional electoral systems, operationalized as larger district magnitudes, help in closing the representational gap between the rich and the poor. Another example is provided by Bartels (2015, 2017), who through cross-national studies compares unequal representation in proportional as opposed to majoritarian systems and federal systems up against systems with more centralized state structures, as well as contrasting social democracies and liberal democracies. He finds at most modest differences in unequal responsiveness between these institutional contexts.

2.6 Direct democracy and responsiveness

There is also a considerable body of literature that has sought to investigate the effects of direct democracy on responsiveness. The literature is especially focused on cantons in Switzerland and the US states. An early study on the effect of direct democracy on responsiveness towards the median voter was provided by Pommerehne (1978). By studying expenditure patterns in Swiss municipalities, he found that the municipalities were more responsive towards the median voter preferences when there were provisions for direct legislation. In later studies, Elisabeth Gerber found that legislation in US states with provisions for popular initiatives reflected the median voter's preference on abortion policy (Gerber 1996) and death penalty (Gerber 1999, chapter 7) better than legislation in states that prohibited initiatives. Moreover, Matsusaka (2010) studied responsiveness on ten different issues across US states and found that policy proposals advocated by popular majorities were 18-19 percent more likely to be passed in states with direct democratic mechanisms.

On the other hand, Lax and Phillips (2012, 160) find no meaningful effect of direct democracy when looking at government responsiveness to public preferences on specific policy issues in US states. Furthermore, Lloren (2017) conducts a field experiment in Switzerland and finds no evidence of an effect of direct democracy on communicative responsiveness of politicians to citizens. This goes against the notion that politicians under direct democracy are forced to continually keep themselves informed about preferences of citizens to avoid legislative blocking. The mixed findings suggest that the effect of direct democracy on responsiveness might be conditional. In a study of Swiss cantons, Leemann and Wasserfallen (2016) have shown that when there are large preference deviation between the electorate and

representatives, direct democracy is better at enhancing representation. Thus, the effect on responsiveness is higher when citizens are worse represented by the traditional representative institutions.

A few scholars have also sought to investigate the implications of direct democracy for political equality. For instance, some address the effects on political participation (Kern and Hooghe 2018; D.A. Smith and Tolbert 2004). Others have assessed the effect on redistribution (Feld, Fischer, and Kirchgässner 2010; Morger and Schaltegger 2018) and minimum wages (Bartels 2016, 226-227). On the other hand, to my knowledge, hardly any studies have investigated the implications for unequal responsiveness directly. A notable exception is Flavin (2014), who showed that although the presence of direct democratic mechanisms did not equalize unequal political representation on the background of income, more frequent use of these mechanisms lowered the representational inequalities in US states.

2.7 Contribution

In my thesis, I intend to investigate policy responsiveness further in a wide range of advanced democracies. Moreover, I delve into whether responsiveness is equally distributed or if there are inequalities across income groups. Finally, this thesis examines the implication of direct democracy for responsiveness. Are governments in countries with direct democratic practices more responsive to the preferences of citizens? Although a few studies have investigated the effect of direct democracy on the state/canton level in the US and Switzerland, cross-national research on direct democracy's implications for government responsiveness on the national level remains limited.

Additionally, despite growing awareness of political inequalities related to economic inequality and the significance of political institutions, virtually no works in the literature addresses the implications of direct democratic practices for distribution of policy responsiveness. Can direct democracy mitigate representational inequalities due to economic inequality or are the inequalities further enhanced? To fill this literature gap, I construct an original dataset consisting of survey data and corresponding macro level data covering a broad range of advanced democracies and multiple time points. Survey data allows insight into the preferences of citizens on different political issues. Merging preference data with spending data on the national level in the following years allows me to examine whether the preferences are fulfilled

by policymakers and whose preferences governments may be responsive to. Furthermore, the broad comparative approach implies institutional variation across countries and makes it possible to examine the effect of different political institutions on responsiveness.

3. Theory

In this chapter, I present the theoretical framework that will culminate in the formulation of empirically testable hypotheses. I discuss the normative and theoretical grounds for why policy output should be responsive to preferences of citizens. Then, I introduce explanations for why government policy is expected to be more responsive to the wealthy. Further, as the thesis attends to the role of political institutions, I introduce a veto player perspective focusing on how institutional set up is critical for responsiveness. After that, since the analysis is concerned with direct democracy in particular, I conceptualize direct democracy and argue how specifically such institutions may affect responsiveness and to whom government policy is responsive.

3.1 Democratic principles and the median voter theorem

From a normative point of few, we could expect that democracies fulfil the conditions of democracy proposed by Dahl (1971, 1). Policy output should then, at least to some degree, be continually responsive to public opinion. Moreover, the congruence between citizens' preferences and policy output should be equal no matter what economic position the citizens are in. Conveniently from a normative point of view, the expectation raised from the "median voter theorem" is that the median voter is decisive (Downs 1957). Assuming a one-dimensional political spectrum and that voters have single-peaked preferences, the position of the median voter has the best claim to represent the most preferred policy and thus the citizen majority (J.D. Huber and Powell 1994, 293). If voters decided directly on a policy, we would expect them to adopt a position that corresponds to the median voter's position because this position is the only one that cannot be defeated by a majority. Thus, when the median voter is decisive, we would also consider the normative condition of responsiveness to the preferences of citizens to be fulfilled.

The median voter theorem is centred on elections and electoral competition between political parties. In two-party systems, political parties will strive to maximize votes by adopting ideological positions that make them more attractive for voters in the middle of the political spectrum (Downs 1957). Furthermore, political parties in multiparty systems will strive to distinguish themselves ideologically, but because of the logic of coalition bargaining, the median party is expected to play a dominant role in government formation (J.D. Huber and Powell 1994, 299). In this way, policy output is responsive to the majorities' preferences.

Moreover, since each citizen is entitled to vote in elections, socioeconomic background should not have any say in how preferences of citizens are represented. Following from a normative perspective on democracy and the median voter theorem, we would expect the median voter to be decisive.[1] This leads to my first hypothesis:

H1: Average/median policy preferences should significantly affect policy output, suggesting the presence of government responsiveness.

3.2 Unequal responsiveness

However, scholars have expressed doubt on whether the assumptions in the median voter model holds, thus leading them to reject the it as an accurate reflection of reality. The model reduces all political issues to a single ideological dimension, which is at odds with empirical evidence suggesting that most citizens have distinct views about different policy issues (Converse 1964; Kinder and Kalmoe 2017, 61-62). It also assumes 100 % voter turnout and that citizens vote on the basis of definite preferences even though they often do not (Achen and Bartels 2017, 30-31). Additionally, the model overemphasizes the significance of elections while neglecting the influence of wealthy individuals and interest groups (Hacker and Pierson 2010, 164). Moreover, the median voter model meets difficulties in explaining the recent trend of rapidly growing economic inequality. While economic inequalities have been predicted to be at least partly self-correcting in the median voter-centred model by Meltzer and Richard (1981), they have been on the rise in many advanced democracies for decades (Alvaredo et al. 2018). In the US for instance, the economic position of the median citizen has declined (Hacker and Pierson 2010, 166).

Moreover, several studies in a range of developed democracies have investigated to what extent there exists differential responsiveness according to income. A good deal of these studies have been conducted in the United States (Gilens 2012; Bartels 2016), but there is also a growing literature on this topic involving a wider range of advanced democracies (Rosset, Giger, and Bernauer 2013; Peters and Ensink 2015). The conclusion in these studies is that there are extensive representational inequalities between higher and lower income groups. In other words, the median voter model considers voters as equals even though reality often does not.

[1] Although I refer to the *median* voter theorem, I mainly rely on the mean as measure of central tendency when aggregating individual preferences to the country level. I touch further on this in chapter 4, and in chapter 5, I find that the results are approximately the same independent of measure.

There are strong and convincing reasons to believe that the preferences of the rich weigh disproportionately in explaining policy output compared to preferences of other poorer citizens. I therefore expect differential responsiveness according to income. This leads to my second hypothesis:

H2: The preferences of higher income groups will have a stronger effect on policy output than the preferences of lower income groups.

The literature on unequal representation offer convincing reasons for why policy responsiveness can reflect the preferences of the rich better than those of the poor. In the next section, I discuss the most prominent explanations.

3.3 Understanding unequal responsiveness – a theoretical background

3.3.1 Political participation

One common explanation for differential responsiveness according to income is linked to political participation. The wealthy are more likely to participate in politics than the poor (e.g. Schlozman, Verba, and Brady 2012), for instance when it comes to voting. Since voters tend to select like-minded representatives, they may influence the actions of representatives (Miller and Stokes 1963, 50; Lijphart 2014, 4). Moreover, political participation is crucial for the representatives' perceptions of the electorate. The policy preferences of the constituency are not immediately visible even though we assume that representatives attempt to follow these preferences (Miller and Stokes 1963, 54-55; Broockman and Skovron 2018). As the representatives are more likely to hear the active and resource-rich constituents (Miler 2007), these constituents will also be more listened to. Thus, representatives disproportionately represent the political participators, and policy responsiveness is skewed in favour of the higher income groups and in disfavour of the poor.

Griffin and Newman (2005, 1222) find that representatives indeed do respond more to voters' preferences than non-voters. Moreover, Adams and Ezrow (2009) find that European political parties are more responsive to opinion leaders – defined as people that report persuading other individuals like friends and family - than they are to other voters' preferences. This is partly explained by higher turnout among opinion leaders. Furthermore, Hill, Leighley, and Hinton-Andersson (1995) show that mobilisation of the poor influence policies that are implemented

and that the levels of redistribution, favoured by the lower classes (Kumlin and Svallfors 2007, 21), are higher when the poor vote.

In addition to voting, other types of political participation may strengthen responsiveness (Leighley and Oser 2017). Citizens could for example work in political campaigns, contact officials, take part in protests, hold membership in local governing boards, or become member of organizations that take political stands. Lower income groups also participate less frequently than higher income groups when it comes to these types of political actions (Verba, Schlozman, and Brady 1995, 188).

The inequalities in participation are especially apparent when looking at financial contributions to political campaigns as higher incomes should naturally enable citizens to donate more (Verba, Schlozman, and Brady 1995, 194). Financial contributions help strengthen candidates for office and political parties, and they could be made dependent on the sources of big contributions (Scarrow 2007). A meta-analysis of campaign contributions has shown that these contributions affect legislative voting behaviour in the US (Stratmann 2005, 146). Contributions may especially be influential when large donations are made over several elections, and these are coupled with informative discussions about matters of concern to the contributor (Snyder 1992, 17). In sum, the political influence that follows from political participation is expected to entail a bias in favour of the preferences of the wealthy. It is thus likely that unequal participation results in unequal responsiveness.

3.3.2 Descriptive representation

Even though participation in politics might be able to partly explain a representation bias in favour of the upper classes, Bartels (2016, 259) and Erikson (2015, 20) claim that income-related disparities in turnout simply are too small to provide a plausible explanation for the income-related disparities. Butler (2014, 3) notes that even though citizens send the message, their messages might not be given equal weight. This leads us to another explanation for unequal responsiveness: unequal descriptive representation.

Descriptive representation entails that the representative body is selected so that its composition corresponds to that of the whole citizenry (Pitkin 1967, 60). As mentioned above, different economic groups hold distinct political opinions. These different opinions are likely to be a result of a variety of experiences that come from the different socioeconomic backgrounds.

Because policymakers, at least some of the time, generally are believed to base their decisions on their own judgement, their personal characteristics, experiences, or group identifications may influence their decisions (Carnes 2012, 10). Therefore, descriptive representation is assumed to be important for the advancement of group interests, also called substantive representation. A higher number of representatives with a certain class background could strengthen the substantive representation of this respective class.

Mansbridge (1999, 628) argues that descriptive representation enhances the substantive representation of interests by improving communication in contexts of mistrust, in addition to contributing to innovative thinking in contexts of uncrystallised, not fully articulated interests. At the same time, we see that policymakers tend to be better off than the average citizen and that they are much less likely to come from the working class (Best 2007, 100; Carnes 2013, 5-6). Thus, because of the better descriptive representation of the affluent, we would expect the higher income groups to have an advantage in pushing their preferred policies, making it more difficult for the lower income groups to have their preferences fulfilled. This leads to policy output being more responsive to the preferences of the rich than the preferences of lower income groups.

3.3.3 Interest representation and money in politics

Gilens (2012, 238) argues that some representational inequality may result from the class composition of the legislature. Still, he believes the influence of representatives' personal preferences at best explain a small part of the unequal responsiveness that has been observed in the United States. Instead, interest representation, which in particular may proceed through lobbyism (Campos and Giovannoni 2007; Gilens 2012, chapter 5), is seen as a better explanation for differential representation. Mahoney (2007) shows that lobbyism can be systematically biased in favour of wealthier business interests. She finds that this is especially the case in the US where lobbyism is coupled with private funding of elections, as opposed to the European Union.

One way of which interest groups can affect legislative voting is by providing valuable information to legislators. The legislators have limited capacity and information when dealing with a great number of legislative proposals. Interest groups, that are specialized and concerned with specific issues, are able to provide the politicians with expertise (Hall and Deardorff 2006,

73). Another way of influencing representatives is by offering resources for election campaigns (Witko 2006, 286; Fellowes and Wolf 2004, 320). Interest groups often provide funding to politicians. By doing this they invest, so to speak, in the politician. Large regular donations over a longer time period, together with informed discussions on topics of interest to the interest organization, may yield votes in favour of the interests the organization may have (Snyder 1992, 17).

In addition, interest groups can build close relationships with legislators by providing personal benefits during or after their mandate. Benefits can for instance be provided by rewarding representatives with lucrative positions when their political mandate has ended (Eggers and Hainmueller 2009). This is advantageous for interest groups because having allies in government makes it more likely to gain their preferred policy outcomes (Baumgartner et al. 2009, 208). Narrow but wealthy business interests may use their financial resources to gain political connections, thus increasing their political influence, which again can result in financial gains. For instance, Faccio (2006) shows that stock prices of companies increase when a businessperson from their firm enters politics, and Faccio, Masulis, and McConnell (2006) show that politically connected firms are more likely to be bailed out.

While wealthier business interests may dispose of a strong apparatus for political influence, lower classes have fewer organizations that advocate on behalf of their interests (Schlozman, Verba, and Brady 2012, 87). Unions, an important defender of the economic preferences of the working class (E. Huber and Stephens 2001, 18; Gilens 2012, 157), have declined in recent decades (Vachon, Wallace, and Hyde 2016). They also meet a great deal of resistance from other more powerful interest groups that tend to have opposite views on the issues that the unions take stands on (Gilens 2012, 158). In addition, the more economically advantaged are more likely to be member of interest organizations that are seeking to influence policy. One would expect the higher income groups to exert stronger influence within the interest organizations. An implication of this could be that the organizations more often promote the policies favoured by the wealthy. In sum, uneven distribution of resources and interest representation are expected to lead to the rich having greater influence on policy than lower income groups.

3.4 Expanding the theoretical framework – institutional set-up

Inequality in representation as a result of economic inequalities can also in part be explained by institutional factors (see e.g. Bernauer, Giger, and Rosset 2015). Institutions influence the articulation of interests and expression in politics, and they affect how preferences of citizens are represented because of the various ways different institutional structures translate public opinion into policy (Powell 2004). It is therefore expected that variations in institutional structures affect the way in which preferences of citizens are represented. In this section, I introduce a new angle regarding explaining responsiveness by investigating how political institutions can affect responsiveness, with focus on the effect of direct democratic institutions.

3.4.1 Veto players and responsiveness

Institutional structures generate structures of veto points and veto players. Furthermore, the structure of veto points and players influences the policymaking process as it affects how preferences are translated into policies. Therefore, this is likely to have consequences for responsiveness. Tsebelis (2002, 116) argues that the introduction of direct democratic mechanisms is equivalent to the introduction of a new veto player: the public. Thus, it is necessary to elaborate on veto power and the implied consequences of direct democratic mechanisms on distribution of veto power, in addition to how additional veto players may affect responsiveness.

A basic conception of democracy is simple majority rule based on the principle "one person one vote". In modern democracies, however, the power of elected majorities for instance, are constrained by constitutional designs to prevent extreme factions from introducing radical political changes, and preserve some degree of political stability (Elster 1988). The division of legislatures into two chambers, where the upper house exerts a moderating influence on the lower house by vetoing their proposals, make up one example of how institutional design restrains the power of the elected majorities. This way of designing institutions affects the political decision processes. Political decisions require agreement at several points along a chain of decisions. Thus, the outcome of legislative proposals depends upon the veto opportunities along the chain (Immergut 1990, 396). Multiple veto players would make it more difficult for governments to carry out great changes in policy because actors with opposing interests have more access points for influence (Tsebelis 1995). Because bicameralism, as

opposed to unicameralism, makes it necessary for one more group (the upper house) to agree for the policies to be enacted, one would expect it to be more difficult for the government to pass their policies. Veto points are thus likely to keep policies closer to the status quo.

Veto points work as access points where some degree of agreement among involved parties must be reached in order to pass the policy proposals (Immergut 1990, 396). These access points force incorporation of a wider set of preferences, so that political influence is dispersed. This would imply that policy outputs are more closely linked to the preferences of citizens because a greater spectrum of the preferences among citizens must be considered during the decision-making processes. Furthermore, the dispersion of political influence would make it less likely for one small group to exert disproportionate influence unless this group dominates all points along the chain of the decision-making process. In this way, more institutional veto points may increase policy responsiveness to the preferences of citizens. Next, I elaborate on direct democracy, and I explain how the institutional veto point that is entailed with the introduction of direct democratic mechanisms could affect responsiveness and representational inequalities.

3.5 Direct democracy

Direct democratic institutions have been understood as a viable solution to the disconnection between citizens and their representatives in representative democracies (Dalton, Burklin, and Drummond 2001; Matsusaka 2020). Moreover, advocates as well as scholars of direct democracy have argued that such arrangements will promote government responsiveness (Cronin 1989, 10; Hug 2004). If officials choose to ignore the preferences of citizens, citizens would then be able to use the mechanisms of direct democracy to make the law they wish for. Mechanisms of direct democracy could therefore work as corrective institutions when institutions of representative democracy fail to represent the interests of the citizens.

3.5.1 Conceptualizing direct democracy

One definition of the mechanism of direct democracy is provided by (Altman 2011, 7) who describes it as "a publicly recognized institution wherein citizens decide or emit their opinion on issues – other than through legislative and executive elections – directly at the ballot through universal and secret suffrage." The term is broad and implies a variety of institutions and

designs that are presumed to have completely different implications for representation. Therefore, it is important to clarify important dimensions of direct democracy to understand how this concept might influence responsiveness.

A basic distinction can be made between referendums and citizens initiatives (Cronin 1989, 2). The citizen initiative allows citizens to propose legislative measures or constitutional amendments by filing a petition bearing a required number of citizen signatures while a referendum is a vote on a proposed or existing law or statute. In other words, the citizen initiative is a subtype of the general category of referendums.

This simple distinction draws attention to the question of who the promoter of the popular vote is. It must be noted that this distinction is only applicable to optional (or facultative) referendums that are requested by some agent (Uleri 1996, 9). Referendums could also be mandatory, meaning that constitutional rules determine that referendums must be called in order for certain decisions to be valid and enter into force. As mandatory referendums have no promoter, the question of who has the power to initiate referendums is irrelevant for those referendums. Depending on the country, optional referendums can be initiated by the head of state, the government, legislative majorities or minorities, parliamentary groups, or ordinary citizens (IDEA 2019).

It is also on the background of who initiates referendums that Altman (2011, 10) distinguishes between top-down direct democratic mechanisms and bottom-up mechanisms. The former entails referendums derived from the political establishment while the latter implies referendums initiated by a group of citizens. According to Altman (2011, 10), top-down mechanisms usually imply plebiscitary means for bypassing other representative institutions, disengaging from the responsibility of tough policies, or as populist tools for mobilization and legitimization. Kaufmann and Waters (2004, xix) point to the importance of distinguishing initiatives and referendums from plebiscites and claim that they have nothing to do with each other. Because some mechanisms of direct democracy are more useful for the political establishment to secure legitimacy for their policies rather than being useful tools for citizens in promoting their preferences, this distinction between top-down and bottom-up mechanisms is crucial.

Since they imply mechanisms where the citizens themselves have the opportunity to promote policies, I will especially focus on how the existence of bottom-up institutions of direct democracy could strengthen the policy responsiveness of the political elite. By the existence of

bottom-up mechanisms of democracy, I am referring to whether citizen initiatives are allowed. This implies that voters are allowed to propose legislative measures or constitutional amendments by collecting a certain number of signatures (Cronin 1989, 2). Setälä and Schiller (2012, 1) separate between two types of citizen initiatives: the full-scale initiative and the agenda initiative. The full-scale initiative is used for initiatives that require ballot votes, while agenda initiatives refer to initiatives that must be considered in the legislatures. Only the full-scale initiative offers a way in which citizens may directly decide on policy decisions in referendums with binding results. Thus, it could be argued that agenda initiatives should be excluded from the realm of direct democracy because it does not provide a referendum with a binding result. Nevertheless, although the agenda initiative sometimes are considered to have little impact as it is a weak institution, it has had a legislative impact, which Setälä and Schiller (2012, 11) argue is a consequence of exercising softer forms of power. Through agenda initiatives, citizens may influence the political agenda and the policy preferences of legislators. Still, as only the full-scale initiative gives citizens full authority over policymaking, I will recognize this initiative as a strong bottom-up institution while the agenda initiative is understood as a weak bottom-up institution of direct democracy.

Next, I intend to provide explanations for how policy responsiveness may be affected by presence and practice of direct democratic institutions. I have especially emphasized the importance of bottom-up institutions of direct democracy. Thus, I first turn to how presence of bottom up direct democratic mechanisms might be significant for policy responsiveness. In addition, I argue that the use of direct democracy could affect the correspondence between popular preferences and policy output.

3.5.2 Bottom-up institutions of direct democracy and responsiveness

There are a few good reasons why we should expect bottom-up direct democracy to enhance congruence between spending preferences and spending output. The views of elected representatives may diverge from those of the citizenry on a range of issues and the priorities could thereby differ. Bottom-up direct democratic mechanisms enable citizens to directly decide on policies, thus giving them the opportunity to veto unpopular decisions taken by elected representatives. In this way, direct democracy offers a direct way of ensuring stronger correspondence between preferences and policy output.

In addition to the direct effect of the mechanisms on responsiveness, strong bottom-up institutions may exert indirect effects on the political process. Policymakers in systems with strong bottom-up mechanisms may anticipate a potential veto against decisions that are less preferred than the status quo among citizen majorities. The mechanisms of direct democracy involve sanctioning instruments that hang over the policymakers' actions like the "Sword of Damocles". In this way, policymakers are motivated to enact policies closer to the preferences of public opinion (Neidhart 1970; Gerber 1996, 101; Hug 2004, 322).

Another reason to expect higher responsiveness has to do with the effect direct democratic mechanisms may have on political engagement. The inclusion of bottom-up direct democratic mechanisms could alter the incentives for mobilization of groups because it offers another way of influencing policy (D.A. Smith and Tolbert 2004; Boehmke and Bowen 2010). This argument is in line with the expectations from the literature on participatory democracy. Here it is argued that if citizens are given more opportunities to participate, they will learn to become better democratic citizens (Pateman 1970, 43; Barber 1984). Studies have supported this view in that frequent use of initiatives have shown to be positively associated with political interest (D.A. Smith and Tolbert 2004, 64) and political knowledge (M.A. Smith 2002; D.A. Smith and Tolbert 2004, 61).

Moreover, because of the additional paths of influencing policy, direct democracy may enhance mobilization of groups traditionally disadvantaged in the legislature. Boehmke and Bowen (2010) show that presence of citizen initiatives fosters greater levels of group membership. Furthermore, they also increase the diversity of interest group representation, thus alleviating the bias in favour of business groups and corporations (Boehmke 2002). Citizens allowed to vote on referendums in Switzerland have also shown higher levels of participation (Lassen 2005), while Peters (2016) and Dvořák, Zouhar, and Novák (2017) have shown that presence of initiatives increase voter turnout. Stronger mobilization as product of the presence of direct democratic mechanisms may further result in stronger responsiveness towards the preferences of citizens.

Moreover, bottom-up institutions of direct democracy make up a tool for agenda-setting for citizens (Hug and Tsebelis 2002). Even though the collection of signatures on a certain proposal does not necessarily result in a referendum, they can still help in putting new issues on the agenda. In this way, citizens may have more to say on what topics are discussed, and it is likely that topics promoted through citizen initiatives will become more salient. Furthermore,

policymakers enact policies that are closer to citizens' preferences on salient issues (Burstein 2003). Thus, the agenda-setting function of bottom-up direct democratic mechanisms could strengthen policy responsiveness.

The mere possibility of initiating policies from the bottom and up can cause stronger congruence between government policies and people's preferences. Because bottom-up institutions of direct democracy can cause policies to fit better with the preferences of citizens, and since they allow citizens to put issues they regard as important on the agenda, I expect presence of such institutions to strengthen general policy responsiveness.

H3: Greater presence of bottom-up direct democratic institutions lead to stronger effect of average policy preferences on policy output, increasing policy responsiveness.

3.5.3 Use of direct democracy and responsiveness

Although I have emphasized bottom-up institutions of democracy, it is important to take into consideration that countries differ when it comes to utilization of available mechanisms. It takes some effort to organize collection of signatures. Moreover, the required number of signatures required to trigger referendums varies, which makes up one explanation for why frequency of referendums is higher in some countries than others (Banducci 1998; Flavin 2014). Representatives have less reason to worry about the sanctioning function of the citizen initiative if these mechanisms are less likely to be utilized even though representatives enact policies that diverge from the preferences of citizens. If, despite the availability of direct democratic institutions, citizens seldomly have used referendums in the past, representatives could perceive the risk of having their proposals shot down by referendums as low. Therefore, I do not only want to limit the study to the provisions for initiatives, but also consider use of the direct democratic mechanisms. Based on this theoretical consideration, I derive the following hypothesis:

H4: More frequent referendums lead to stronger association between average preferences and spending change, meaning that policy responsiveness is increased.

3.5.4 Direct democracy and unequal responsiveness

I also intend to investigate the effect of direct democracy on responsiveness towards preferences of different economic groups. It is not obvious that presence of bottom-up direct democratic mechanisms or practice of direct democracy will strengthen or weaken responsiveness towards the rich or the poor. Therefore, I am considering both the possibility that direct democracy may exacerbate representational inequalities and that it may have a mediating effect.

The mitigating effect of direct democracy on unequal responsiveness

I have already discussed mechanisms explaining how direct democracy may enhance responsiveness. Further, I argue that the same mechanisms ensuring correspondence between policy output and the preferences of the median voter also could ensure stronger representational equality across income groups.

As I have pointed out earlier, legislatures are often biased towards the preferences of the rich. Wealthy groups are much better descriptively represented in the legislatures (Best 2007; Carnes 2013; Butler 2014). Moreover, because the wealthy tend to be better represented by organized interests, lobbying interests may influence politicians so that policy output is skewed in favour of the preferences of the wealthy (Gilens 2012, chapter 5). Since direct legislation involves circumventing policy decisions made by biased legislatures, it may reduce representational inequalities. In other words, direct democracy could promote political equality because it shifts the power in policymaking processes away from political and economic elites and toward the voters (Flavin 2014, 120).

Furthermore, the rich tend to participate more in politics than lower income groups (Schlozman, Verba, and Brady 2012), and direct democracy may alleviate these differences in participation across income groups as a result of altered participation incentives. The additional way of influencing policy may enhance engagement of lower socioeconomic groups as it allows them to circumvent the legislatures, in which they are worse represented, when pressing their policy concerns. Thus, as a result of the availability of direct democratic institutions, we might see stronger voter mobilization (Peters 2016) and strengthened diversity of organized interests so that the poor are better represented by interest groups (Boehmke 2002). Finally, bottom-up mechanisms involve an additional way of setting the political agenda for broader citizen groups (Hug and Tsebelis 2002). Thus, agenda-setting tools should be more equally distributed. These

theoretical considerations suggest that responsiveness should be more equal when direct democratic institutions are present. From this, I derive the following hypothesis:

H5a: Stronger presence of bottom-up direct democratic institutions strengthen responsiveness to the preferences of the poor compared to preferences of the rich, alleviating differential responsiveness.

The intensifying effect of direct democracy on unequal responsiveness

Although it has been argued that direct democracy may alleviate representational bias in favour of the rich, scholars have also shown that it may paradoxically enhance the existing representational inequalities due to income. A central argument for direct democracy is built on the understanding that more opportunities to participate will lead to people becoming more politically educated and engaged (Boehmke 2002). However, this argument hinges on the assumption that citizens put time and effort in, and this assumption is often violated because they are not necessarily interested in doing so (Hibbing and Theiss-Morse 2002, 127). Participation in referendums can be costly as it takes time to vote as well as to gather information when preparing the vote. Too intensive demands for participation may cause "voter fatigues", where voters choose to refrain from taking part in politics. Especially the lower resource citizens are among those that risk being demobilized as they are the ones that will be affected the most by higher participation costs (Dyck and Seabrook 2010, 190; Kern and Hooghe 2018). We thus experience a "participation paradox", meaning that more intense forms of participation mainly mobilizes the privileged societal groups while it demobilizes other citizens (Verba and Nie 1972).

In addition, the diminishing effects of institutions of direct democracy on turnout might not only be consequential for participation in referendums, but can also spill over into electoral participation (Freitag and Stadelmann-Steffen 2010). As the voter recognizes that he or she is in position to directly make binding decisions on important issues without the recourse to legislators, the voter could reason that representative elections are less important. Thus, voter turnout may decrease. This should widen the representational gap between the rich and poor as the poor tend to be worse represented when voter turnout is lower.

Another explanation that might enhance representational inequalities is related to the possibility that direct democratic institutions could be manipulated by powerful interest groups for their

own benefit. As organizing initiative campaigns demand resources like money, wealthier groups may strengthen their position at the cost of the poor under direct democracy. While direct democracy has been envisioned as a way of circumventing the power of economic interests in legislatures, Gerber (1999, 5) suggests that direct democratic mechanisms in the US paradoxically have become powerful tools of wealthy interest groups rather than increasing responsiveness to broader interests.

When succeeding in referendums, it is obviously necessary to mobilize voters. Money is therefore useful because it can be used to finance expensive, highly professional, and one-sided legislation campaigns (Gerber and Lupia 1995, 287). At the same time, to dominate the campaigns ahead of the referendums has been found to be crucial to succeed in referendums (Hertig 1982). The problem of financing campaigns is especially problematic when voter competence is low (Gerber and Lupia 1995, 199; Matsusaka 2005). Additionally, according to logic of collective action, there are better potential to organize for smaller groups with strong interests than large groups with more diffuse interests (Olson 1965). This is because small groups with strong interests have greater incentives to overcome the free-rider problem than larger groups with diffuse interests, like consumers (Stratmann 2010, 14). Better organized interests may use their power to run misleading campaigns that confuse voters. In this way, direct democratic institutions may be in danger of facilitating production of outcomes that reflect interests of wealthy individuals and organizations rather than the interests of the average citizen.

Narrow interest groups can also to some extent control whether referendums are held, for instance by collecting the number of signatures among organization members that is sufficient to launch referendums (Immergut 1990, 404). This gives them substantial control over the agenda. However, it must be noted that it is the activity of more extreme interest groups that may advance the interests of narrow groups, while moderate and broad-based interest groups may make the citizens better off. Interest groups often reflect the will of the people (Flöthe and Rasmussen 2019). In other words, greater interest group influence is not necessarily bad for representation of larger groups in society. Still, there is a risk of direct democratic mechanisms being captured by narrower and more extreme organized interests.

Furthermore, this risk may especially be present when there is considerable uncertainty of voter preferences among legislators. Legislators are not always certain about voter preferences. Under circumstances characterized by asymmetric information, organizations may threaten

elected officials to start initiative processes to challenge political decisions made in legislatures (Matsusaka and McCarty 2001). Representatives would not risk losing control over decision making through referendums. Therefore, they may find it optimal to choose policies closer to the ideal point of the interest group. As a result, the interest group may be deterred from proposing an initiative provided that the cost of initiating is high enough. As representatives may try to accommodate interest groups to avoid potential vetoes, allowing initiatives may lead to policy choices farther from the ideal point of the ordinary citizen and closer to stronger organized interests. In sum, these theoretical considerations imply that direct democratic mechanisms should reinforce differential responsiveness. Thus, I formulate the following rivalling hypothesis:

H5b: Stronger presence of bottom-up direct democratic institutions strengthen responsiveness to the preferences of the rich compared to preferences of the poor, increasing differential responsiveness.

4. Method and data

To answer my research question, I take a quantitative approach based on survey data from the five Role of Government modules by the International Social Survey Programme (ISSP), covering a range of advanced democracies for the period 1985-2016.[2] Additionally, I make use of corresponding government spending data collected from databases by the World Bank, the International Monetary Fund (IMF), and the Organisation for Economic Co-operation and Development (OECD). I link preferences of respondents from the surveys to policy spending to see whether government policy output responds to preferences of citizens. Additionally, the samples of respondents are split into different income groups. This gives me the opportunity to distinguish between the preferences of different income groups, and by linking their preferences to policy output, I am able to examine whether there is differential responsiveness according to income. In sum, eight policy issues are covered in this thesis: environment, health, education, defence, law and order, unemployment benefits, old age pensions, and culture and the arts. Thus, the unit of analysis is country-issue-year. Furthermore, the analyses are carried out through ordinary least squares regression analyses that take into consideration the structure of the data.

The cross-sectional approach allows me to examine under what conditions responsiveness occurs (J.D. Huber and Powell 1994; Hobolt and Klemmensen 2008; e.g. Soroka and Wlezien 2010) and investigate whether different conditions may affect the extent of unequal responsiveness across societal groups (e.g. Bernauer, Giger, and Rosset 2015). Thus, I am able to investigate whether the presence of direct democratic mechanisms or use of direct democracy on the national level influence degree of responsiveness and the extent of representational inequality.

In this chapter, I elaborate on my approach to study responsiveness. First, I introduce the dataset that I constructed in order to carry out my analyses and present the variables that are included. Then, I introduce the quantitative analytical techniques that are employed in the estimation of responsiveness and the effect of direct democratic practices on responsiveness. Finally, before the results are presented in the next chapter, I discuss causality and to what extent I can make causal inferences in this study.

[2] https://www.gesis.org/issp/modules/issp-modules-by-topic/role-of-government

4.1 Data

4.1.1 Measuring public spending preferences

To measure spending preferences of citizens, I rely on survey data from the Role of Government modules by the ISSP. These modules include a question that asks whether the respondent would like to spend more, less, or the same on some area of government. The exact wording of the question can be found in figure 4.1.

Figure 4.1: Survey question

Listed below are various areas of government spending. Please show whether you would like to see more or less government spending in each area.
Remember that if you say "much more", it might require a tax increase to pay for it.

	Spend much more	Spend more	Spend the same as now	Spend less	Spend much less	Can't choose
a. The environment	☐	☐	☐	☐	☐	☐
b. Health	☐	☐	☐	☐	☐	☐
c. The police and law enforcement	☐	☐	☐	☐	☐	☐
d. Education	☐	☐	☐	☐	☐	☐
e. The military and defence	☐	☐	☐	☐	☐	☐
f. Old age pensions	☐	☐	☐	☐	☐	☐
g. Unemployment benefits	☐	☐	☐	☐	☐	☐
h. Culture and arts	☐	☐	☐	☐	☐	☐

As can be seen in the figure, the respondents can choose between a range of answers on 5-point Likert scales. Since the survey questions ask whether the respondent wants to spend more or less compared to the spending levels at that moment, the question is interpreted as a question for policy change. The surveys are presumed to include representative samples of all citizens in each country, thus making the survey answers representative of the spending demands of the whole citizenries in each country-issue-year when aggregated.

The ISSP Role of Government surveys were conducted in a varying number of countries in 1985, 1990, 1996, 2006, and 2016. The survey was conducted later for some cases and this has been taken into consideration. The literature on responsiveness is mainly concerned with investigating the topic in advanced democracies as these systems are recognized as closer to fulfilling the democratic criteria of responsiveness and political equality. I follow this tradition and limit the sample to encompassing these countries, for which there is also much greater availability of data. The 26 advanced democracies on which data is available for at least one point in time are: Australia, Canada, the Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, New Zealand, Norway, Poland, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, and the United States.[3] This gives me a broad coverage of advanced democracies, and since I have data for several issues, the number of country-issue-year units is further strengthened. A table overview of country-years can be found in table 4.1.

Similar to Wlezien and Soroka (2012) and Bartels (2015), I quantify spending preferences using a scale from "spend much less" (-100) to "spend much more" (+100). If the respondent responds with "spend the same as now", a score of 0 is assigned, while "spend more" and "spend less" are given scores of +50/-50. Statistical analysis with variables with 5-point Likert scales is often criticized as it implies analysing ordinal variables, in which the distance between the steps of the scale are not equal, as if they are continuous (Kellstedt and Whitten 2018, 114). On the other hand, the zero point of the scale ("spend the same as now") is meaningful in that it corresponds to the perceived status quo spending level. Moreover, the distance between "spend much less" and "spend less" could be considered equal to the distance between "spend much more" and "spend more", etc., meaning that it really is a mirrored scale in wording.

Furthermore, the spending demand of the respondents is averaged for each country-year-issue on the -100 to 100 scale. I also calculate average preferences for different income groups across each country-year-issue, thus allowing me to investigate the effect of the preferences of different income groups on policy outcomes. Scholars vary in using mean or median. J.D. Huber and Powell (1994, 296) argued that the median would be preferred because the mean gives greater weight to cases more distant from the centre. However, the mean should work equally well and is also often utilized (Soroka and Wlezien 2010; Peters and Ensink 2015; Bartels

[3] Attitude data are available for a few other affluent democracies, but they are excluded because they did not collect household income data for the specific country-year or because of missing corresponding spending data.

2015). I also considered using the interpolated median (see also Rosset 2013), arguably a better suited measurement of central tendency than the median for ordered rating scales with a limited number of categories (van der Eijk 2001, 339).

Table 4.1: Country-years

Country	**1st wave (ca. 1985)**	**2nd wave (ca. 1990)**	**3rd wave (ca. 1996)**	**4th wave (ca. 2006)**	**5th wave (ca. 2016)**
Australia	1986	1990	1996	2007	2017
Canada	---	---	1996	2006	---
Czech Republic	---	---	1996	2006	2016
Denmark	---	---	---	---	2016
Finland	---	---	---	---	2016
France	---	---	1997	2006	2016
Germany	---	---	1996	2006	2016
Great Britain	1985	1990	1996	2006	2016
Hungary	---	---	1996	2006	2016
Iceland	---	---	---	---	2017
Ireland	---	---	1996	2006	---
Israel	---	---	---	2007	2016
Italy	1985	1991	1996	---	---
Japan	---	---	1996	2006	2016
Latvia	---	---	---	2007	2016
Lithuania	---	---	---	---	2016
Norway	---	1990	1996	2006	2017
New Zealand	---	---	1997	2006	2016
Poland	---	---	1997	2008	---
Slovakia	---	---	---	---	2016
Slovenia	---	---	1996	2006	2016
South Korea	---	---	---	---	2016
Spain	---	---	1996	2007	2016
Switzerland	---	---	1998	2007	2017
Sweden	---	---	1996	2006	2016
United States	1985	1990	1996	2006	2016

When looking more closely at the results, I found that the choice between the average or the median (interpolated or not) is basically inconsequential when examining the link between overall preferences and spending, but when it comes to comparing the influence of different income groups, these two measures of central tendency lead to very different results. This is because the differences between groups appear considerably smaller for the median as more "extreme" values are not considered even though I would argue that they provide important information in this case.[4] The mean is better at taking the variation of the distributions into account. To disentangle the effects of different income groups, I therefore use the mean in line with a great share of the cross-national responsiveness literature concerned with inequality in representation (e.g. Bartels 2015, 2017; Schakel, Burgoon, and Hakhverdian 2020).

Income data

To consider the preferences of different income groups, I rely on household income data that comprises the same respondents. The income data from the ISSP Role of Government survey modules is split by country and module and expressed in different currencies, in addition to being measured variously in either monthly or annual income in different countries and modules. The fact that the measurement varies by country and module would generally constitute a big problem for comparability across time and country. However, it was unproblematic in this case as my only intention is to decide what income groups the respondents belong in within their respective countries. Relative instead of absolute income levels allow easy comparisons even though measurement of income varies across countries and time. This approach is also appropriate because of it avoids the problem with inflation and since it allows me to hold different proportions of the population constant over time.

A more problematic aspect with the income data from the Role of Government modules is that the wording of the survey questions varies. In addition, the survey modules differ when it comes to asking respondents about gross or net income. On the other hand, again this obstacle is modest since I compare the rich and poor within the same country in a standardized way. More general issues with income data also applies for this data. Usually, respondents are less likely to answer the income question, and some groups are less likely to respond than others

[4] Although the interpolated is better than the median in this sense, when there are fewer units, which is the case for the five income quintiles since they each are limited to a fifth of the survey respondents in each survey module, the interpolated median tended to stay quite close to the median.

(Micklewright and Schnepf 2010, 418). [5] Since the analysis depends on income data from each respondent, respondents that did not report income are dropped. The less educated, who are less likely to respond, may be slightly worse represented as a result of this.

The respondents are placed into five equally sized income quintiles for each survey based on the income brackets they assigned themselves to in the surveys. This is done using the quantile function in R.[6] The first quintile consists of the 20 % respondents with the lowest income, while the fifth quintile consists of the 20 % respondents with the highest income. I mainly focus on the lowest, middle and highest quintiles in this thesis. For alternative measures of the relationship between the preferences of different income groups and policy output, I compute "rich minus poor" and "rich minus middle" variables (Schakel, Burgoon, and Hakhverdian 2020, 154-155). This is done in order to adapt to the multicollinearity problem that typically arises when the preferences of two different income groups are included simultaneously in the regression models. The variables are self-explanatory in that they simply reflect the preferences of the high-income group minus the preference of the middle-income/low-income group. Positive values would indicate that the high-income group would like more spending than the other income group, while negative values mean that the high-income group would like to spend less compared to the other group.

Table 4.2 reports descriptive statistics of some of the central variables included in the analysis that are concerned with preferences of different groups as well as spending change in the year after the survey waves. Moreover, it shows the variation in preferences and spending change between different issues and the differences between income groups, which will be more thoroughly explored in the next chapter.

Table 4.2: Spending preferences and subsequent one-year spending change

Issue	Group	Mean	Standard deviation	Median	Minimum	Maximum
Pooled	Average	23.70	27.24	28.23	-63.59	82.11
	Low-income	26.90	26.97	29.96	-62.08	83.42
	Middle-income	23.79	26.97	28.10	-68.78	88.46
	High-income	19.92	28.05	23.80	-63.15	82.99
	Rich minus poor	-6.98	13.06	-5.30	-43.30	31.45
	Rich minus middle	-3.87	8.10	-3.98	-27.80	18.27
	Δ Spending (%)	-0.93	8.02	-1.01	-30.48	72.02

[5] Based on my calculations, about 21 % respondents did not answer on the income question in the cumulated ISSP Role of Government survey modules.
[6] https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/quantile

Environment	Average	30.95	11.73	31.02	9.22	74.96
	Low-income	27.66	10.90	28.43	6.31	71.26
	Middle-income	30.67	12.06	30.62	6.02	77.13
	High-income	33.88	13.19	33.64	6.47	75.90
	Δ Spending (%)	-0.84	13.11	-1.95	-23.21	72.02
Health	Average	52.05	13.84	53.42	13.34	82.11
	Low-income	56.39	12.10	57.57	25.99	81.73
	Middle-income	53.57	14.67	55.73	13.89	88.46
	High-income	44.84	16.94	47.14	-0.12	82.99
	Δ Spending (%)	0.35	4.24	-0.24	-9.95	18.64
Law and order	Average	29.67	13.81	30.12	0.30	58.82
	Low-income	29.90	15.09	32.20	0.93	60.86
	Middle-income	30.55	14.12	30.44	-1.75	61.80
	High-income	27.87	13.50	27.67	-0.39	59.03
	Δ Spending (%)	-1.13	4.25	-0.94	-11.90	7.80
Education	Average	46.72	11.66	45.81	28.23	79.29
	Low-income	45.83	12.13	43.47	22.29	83.42
	Middle-income	47.20	12.29	45.54	22.67	80.15
	High-income	47.42	11.53	45.18	28.50	76.87
	Δ Spending (%)	-0.82	4.80	-1.14	-20.84	13.74
Defence	Average	-9.94	22.15	-8.70	-63.59	31.94
	Low-income	-5.61	22.71	-2.38	-62.08	37.27
	Middle-income	-9.54	23.10	-5.76	-68.78	36.73
	High-income	-15.19	22.07	-14.51	-63.15	33.42
	Δ Spending (%)	-1.77	6.22	-2.13	-20.67	17.28
Old age pensions	Average	41.39	14.24	37.87	12.40	73.48
	Low-income	50.76	13.38	47.63	21.32	78.98
	Middle-income	41.50	14.98	38.93	6.63	77.74
	High-income	30.73	16.90	26.70	-0.68	72.35
	Δ Spending (%)	-0.12	3.60	-0.50	-6.96	15.11
Unemployment benefits	Average	5.07	16.77	7.52	-35.79	39.85
	Low-income	16.87	16.65	20.81	-16.24	50.20
	Middle-income	4.43	18.20	5.13	-36.19	45.19
	High-income	-6.56	17.35	-3.98	-51.92	31.20
	Δ Spending (%)	-3.59	15.90	-6.65	-30.48	48.80
Culture and arts	Average	-3.66	20.00	-5.59	-44.40	36.08
	Low-income	-3.69	19.18	-4.66	-45.13	35.81
	Middle-income	-5.22	20.97	-9.44	-47.04	35.98
	High-income	-1.33	18.77	-5.21	-35.51	37.13
	Δ Spending (%)	0.07	6.18	0.11	-20.03	15.47

4.1.2 Measuring policy output

The measure of policy output is operationalised as changes in public expenditure in a given area in the year following the ISSP survey waves. This type of policy output measure is often utilized to investigate predictors of government effort in different areas, e.g. welfare state effort (E. Huber and Stephens 2001; Soroka and Wlezien 2010; Bartels 2015). The great advantage of using spending data as the political output variable is that it makes it feasible to investigate the research question cross-sectionally (Brooks and Manza 2006; Soroka and Wlezien 2010; Peters and Ensink 2015; Bartels 2015, 2017; Schakel, Burgoon, and Hakhverdian 2020). Unlike some previous studies, rather than relying on spending levels, the policy output dependent variable is computed so that it really implies policy change (spending change) in a specified period after the survey waves. This reduces the chances of reverse causality, which is further discussed in the last section of this chapter.

There are also a few downsides when using spending as the dependent variable. Soroka and Wlezien (2010, 78-79) note that policy output is different from spending as the government is not in total control of what it spends. Unexpected developments may make spending greater than what the government budgeted. In addition, spending in one year is a result of decisions made in previous years. For instance, although it may be a result of a decision made in a single year, it takes many years to build an aircraft carrier and the outlays would be spread over these years. Moreover, functional spending figures (for health, education, etc.) can be difficult to track since the functional definitions used by budgetary or statistical agencies can change each year (Wlezien and Soroka 2010, 81). In other words, although indicators of spending change are well-suited for cross-sectional responsiveness studies when it comes to data availability, they are not optimal measures of policy change.

The data comprises spending on eight different policy areas. So long as I focus on how preferences for a given country-issue-year and relate these to subsequent policy development for the same country-issue-year, I can pool data across policy issues, hence make it possible to predict a general pattern of net representation. Moreover, a great advantage of pooled spending data is that it allows me to greatly multiply the amount of data, which increases causal leverage. Pooling is meaningful as long as the measures of the policy link are based on standardized measures of preferences and subsequent policy change. Spending attitude data is collected from standardized survey answers from the ISSP. With regards to spending data, the measures are collected from different sources, but spending on all areas are measured as a percentage of gross

domestic product. There is a great amount of national government expenditure data accessible on a range of policy issues. Multiple data sources were considered for each spending area, and indicators were chosen on the grounds of degree of correspondence with the survey questions as well as data availability across countries and time. A table overview of spending areas and their sources can be found in table 4.3. The fact that I am dealing with different issue domains also, at least to some extent, make it possible to look at responsiveness related to different sectors of government. This is exploited in my thesis. Stronger causal inferences are, however, limited by a relatively low number of cases for each issue domain.

The majority of the spending indicators are collected from the Government Finance Statistics (GFS) database by the International Monetary Fund. The GFS database was developed to monitor fiscal developments in countries and thus offers a comprehensive and detailed overview of public expenditures in different sectors of government in a range of countries. The outlays are classified so that "environmental protection", "public order and safety", "education" and "recreation, culture, and religion" are examples of outlay branches. Old age and unemployment expenditures are subcategories of the "social protection" branch.

Table 4.3: Spending data sources

Spending area	**Source for expenditure data**
Environmental protection	IMF Government Finance Statistics
Health	OECD Health Database
Public order and safety	IMF Government Finance Statistics
Education	IMF Government Finance Statistics
Defence	Stockholm International Peace Research Institute
Old age	IMF Government Finance Statistics
Unemployment benefits	IMF Government Finance Statistics
Recreation, culture, and religion	IMF Government Finance Statistics

Health expenditure data were collected from OECD's Health Database. In order to narrow it down to government expenditures, this indicator only comprises expenditures financed by government and compulsory schemes, so that voluntary schemes and household out-of-pocket payments are excluded. Finally, data for defence expenditures stem from SIPRI (Stockholm International Peace Research Institute) and was collected from the World Bank's World Development Indicators. This indicator reflects official data reported by government (until there

is convincing information that the data are incorrect) and comprises expenditure on armed forces, defence ministries and other government agencies engaged in defence projects, paramilitary forces, and military space activities (SIPRI 2020).

Research on responsiveness usually recommends using time lag of one year for the indicator policy preferences indicator (Page and Shapiro 1983; Stimson, MacKuen, and Erikson 1995; Brooks and Manza 2006). I follow the example of most of the responsiveness literature and expect public demand in year t to translate into spending in year t+1. Thus, the main dependent variable is changes in spending from t to t+1. However, some argue that the effect on public demand for spending on spending should not be evident in such a short time period (Bartels 2015, 2017). The argument here is that national policy-making processes vary considerably in their timing and it may thus seem unrealistic to expect public demand to immediately be translated into spending. In addition, some ISSP surveys were conducted later in the calendar year than others.

An additional problem is that the period between policy decisions and resulting spending output may vary across government sectors (Wlezien and Soroka 2003). Thus, it might be difficult to predict how long it will take for public preferences to be translated into government spending. Therefore, for robustness checks, I additionally consider changes in spending over the two years following the ISSP survey modules. While spending in the three and four years following the surveys also are considered, preferences of citizens are likely to change over time,[7] thus making it less likely for preferences to be associated with much later spending changes, and I therefore mainly focus on spending changes in the shorter subsequent time periods following the survey waves.

4.1.3 Linking policy preferences and policy output

To investigate the relationship between public opinion and public policy, I am dependent on survey data. A wide range of survey questions from different cross-national surveys were considered for analysis. As opinion data is insufficient by itself to obtain evidence of the opinion-policy link, I also had to consider the availability of policy output data that corresponds with the survey questions. I landed on the survey questions regarding spending preferences as it gave me a broad coverage of cases, both because the Role of Government modules cover a

[7] See the thermostatic model of public opinion (Wlezien 1995; Wlezien and Soroka 2010).

great number of advanced democracies over multiple time points and because national spending data on the issues covered in the survey are easily accessible from multiple sources. Because of data availability, indicators of opinion and spending have not always corresponded well in the literature on responsiveness. Some studies on this topic are relying on spending indicators that do correspond poorly with preferences data. This thesis, on the other hand, operates with data that directly corresponds to the area I am interested in for each country-issue-year, thus ensuring stronger validity.

4.1.4 Issue saliency

A weakness of my approach is that it fails to take into consideration how important the investigated policy areas are for voters. According to the literature on issue ownership, political parties emphasize issues that are prioritized by voters to maximize number of votes (Petrocik 1996). Thus, when politicians make election pledges and respond to popular demands while in office, they will prioritize the salient issues. Hence, governments tend to be more responsive to public opinion on salient issues (Wlezien 2004). If governments fail to represent policy preferences of citizens that are of little concern to them, it is less consequential than if the issues are regarded as more important. Therefore, it is not optimal to weigh each issue equally independent of what is regarded as important by voters.

One way of dealing with this is by measuring policy preferences using a different indicator of policy preferences. Another survey question that has been used to measure policy preferences on different issues is "the most important problem" (Hobolt and Klemmensen 2005, 2008). This enables the researcher to take issue salience into consideration. For instance, the Eurobarometer has asked the question in the following way: "What do you think are the two most important issues facing [OUR COUNTRY] at the moment?" However, experimental research has shown that this question is extremely sensitive to the wording of the question (Yeager et al. 2011) and Jennings and Wlezien (2012) argue that since policy concerns correlate weakly with spending preferences, the most important problem serves poorly as an alternative measure to spending preferences in research on government responsiveness. Therefore, I regard the survey questions targeting preferences on spending levels more directly as more suitable for the analysis.

4.1.5 Direct democracy

Bottom-up institutions

When looking at direct democracy, I focus on the presence of bottom-up institutions. Moreover, I follow the same path as Peters (2016) in operationalizing direct democracy. The bottom-up direct democracy index consists of two indicators that specify whether the country on a certain time point allows full-scale citizen initiatives or agenda initiatives. If it does allow full-scale initiatives, a score of 1 is assigned to the citizen initiative indicator, and if not, a score of 0 is assigned. The same applies for the agenda initiatives indicator. Thus, as these two indicators are added up, the indicator of bottom-up institutions of direct democracy has a possible range of 0 to 2.

The indicator of bottom-up mechanisms is based on data from Peters (2016), Peters and Trechsel (2017), and IDEA (2008, 2020a). In addition, these sources were supplied with information from alternative sources on cases where the aforementioned sources did not provide information (Podolnjak 2015; Setälä and Schiller 2012). Like Peters and Trechsel (2017), I take the special case of Italy into consideration. The Italian abrogative referendum only allows proposals to delete, partly or totally, existing laws (Uleri 1996, 14). It was originally designed to function as a decision-controlling mechanism, but has also served as an agenda setting mechanism (Setälä and Schiller 2012, 7). Despite this, they are assigned a score of 0.5 on the citizen initiative indicator, as this mechanism does not allow promotion of new legislation.

In some cases, the sources diverged on whether the country in fact allowed citizen initiatives or agenda initiatives. This was the case for Slovenia, Latvia, and Switzerland. Latvia only provides the full-scale initiative, even though it also has provisions for agenda initiatives in the constitution (IDEA 2020b). Moreover, some classify the Slovenian "decision-controlling referendum" as a citizen initiative arrangement (IDEA 2008) although it only allows citizens to promote referendums regarding laws adopted by the national assembly that have not yet entered into force (Podolnjak 2015, 131). Thus, Slovenian citizens may only veto legislative proposals adopted by the national assembly and do not have the power to propose new legislation. For this reason, a score of 0.5 is assigned to the citizen initiative indicator for Slovenia. Finally, the "agenda initiative" in Switzerland is strictly speaking not a real agenda initiative as the legislature is not under any legal obligation to consider proposals promoted by these initiatives. The arrangement is merely a right to petition the legislature to pass legislation (IDEA 2020c). On the national level Switzerland only permits full-scale initiatives.

Use of direct democracy

Because I also intend to investigate the effect of use of direct democracy, I examine the effect of frequency of referendums as well by including a variable indicating the number of referendums in the years when the surveys were conducted. The data on national referendums were collected from Centre for Research on Direct Democracy.[8] A disadvantage with this indicator is that, since it includes all referendums that were held on the national level, it also comprises exceptional top-down referendums that should be less relevant for this study, e.g. referendums on EU membership and votes on new constitutions in post-communist countries. A table overview showing descriptive statistics of the independent variables pertaining to the measurement of direct democracy and control variables can be found in table 4.4, while an overview of bottom-up institutions and referendums in the sampled country-years can be found in appendix A.

4.1.6 Control variables

In addition to the main independent variables that have been presented, I need to include other independent variables in order to control for other factors that have shown to affect government expenditures. I will now introduce several control variables that are included in the analysis to avoid omitted variable bias.

GDP growth

Because my dependent variable is relative to gross domestic product, it is necessary to take change in GDP into account. Change in spending on one domain may be a result of actual change in spending, but it also fluctuates according to change in GDP. For instance, stagnant spending levels on the environment coupled with increased GDP will automatically imply that the share of spending on environment decreases. Similarly, decreased GDP and stable spending levels on the environment will entail an increased share of spending on this sector. The mechanical fluctuation of spending is controlled for by including GDP growth (%) as a control

[8] http://c2d.ch/

variable (Kang and Powell 2010; Wlezien and Soroka 2012; Peters and Ensink 2015). The data is provided by the World Bank.[9]

Table 4.4: Independent variables and controls

	Mean	Standard deviation	Median	Minimum	Maximum
Institutional variables					
Bottom-up direct democratic mechanisms	0.53	0.73	0.00	0.00	2.00
Citizen initiative	0.26	0.41	0.00	0.00	1.00
Agenda initiative	0.27	0.45	0.00	0.00	1.00
Frequency of referendums	0.47	1.46	0.00	0.00	10.00
Control variables					
Δ Gross domestic product (%)	3.03	2.09	3.00	-3.35	10.90
GDP per capita	30670	17830	26588	2422	80450
Δ Unemployment rate (%)	-3.45	13.09	-5.25	-26.68	38.33
Government ideology	3.65	19.05	2.72	-47.87	64.71
Veto players	6.70	6.59	5.66	0.00	33.93
Communist legacy	0.24	0.43	0.00	0.00	1.00
Spending levels (% of GDP)	3.18	2.75	1.83	0.12	14.47

GDP per capita levels

In addition to GDP growth, I also control for GDP per capita levels in current US dollars since affluence levels are expected to affect spending changes (Brooks and Manza 2006; Bartels 2015, 2017). Like the GDP growth indicator, this indicator is also collected from the World Bank.[10]

Unemployment rate

The unemployment rate has often been controlled for in the literature on responsiveness that is concerned with spending, particularly on welfare spending (Brooks and Manza 2006; Bartels 2015, 2017). This is because higher unemployment is expected to affect the composition of the

[9] http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG
[10] https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

budget as social security legislation entitles unemployed citizens to unemployment benefits (Tsebelis and Chang 2004, 450). In this analysis, I include growth in unemployment as a control variable. The unemployment rate indicator that the variable is based on is the harmonized unemployment rate as a percentage of total labour force, collected from OECD.[11]

Government ideology

Partisan theory proposes that ideology of government should affect spending levels (Hibbs 1977; Alesina 1987). From this theoretical perspective, where the parties in government are assumed to exert strong influence over policy output, government ideology can be seen as promissory representation (Mansbridge 2003) in that the government actions reflect the preferences of citizens expressed during the previous election. More left-leaning governments are expected to involve higher spending, in particular on social policy (health, education, old age, and unemployment) (E. Huber and Stephens 2001; Brooks and Manza 2006).

To measure government ideology, an indicator on the ideology of the incumbent parties was constructed based on data from the Manifesto Project and ParlGov using R functions by Toshkov (2019). In the RILE (right-left) indicator by the Manifesto Project, more negative scores indicate more leftist parties, while more positive scores represent more rightist parties. Furthermore, since governments often consist of coalitions, the variable is calculated so that the measurement of ideology incorporates information regarding the relative distribution of power between the cabinet parties. This was done by considering the share of seats in control for each party in the cabinet (Kim and Fording 2002). The measure of government ideology can be summarised in the following equation where I_φ is ideology of a government party, S_φ number of seats in control of the government party, and S_x number of seats in control of the entire government (Peters and Ensink 2015, 586):

$$Government\ ideology = \frac{\sum(I_\varphi S_\varphi)}{S_x}$$

[11] https://data.oecd.org/unemp/harmonised-unemployment-rate-hur.htm

Veto players

I have already stated the importance of institutional set-up for policy change. Moreover, institutional set-up should be consequential for variation in spending across countries. The idea is that more veto players should decrease potential for policy change because more veto players need to agree to get policies passed. This could have different implications for government spending. For instance, one potential consequence of this is that since the government is forced to meet certain demands of veto players, it loses capacity to prioritise, thus increasing spending (Tsebelis 1995, 319).

To measure veto players, I rely on an approach developed by Jahn (2010). The veto player function is not only operationalized based on number of veto players, but also considers ideological distances on the right/left scale. This is because additional veto players should not be as consequential when the ideological distances between the different actors are small (Tsebelis 2002, chapter 7). In this respect, the veto player concept is superior to the veto points approach since the latter do not take agreement among actors into consideration. Coalition governments, second chambers, and presidents are regarded as veto players and the veto player range was calculated as follows (Jahn 2016, 71):

$$VP_{Range} = Max\left(GP_{Max}, OP_{closest_{Max}}, SC_{Median}, P\right) - Min\left(GP_{Min}, OP_{closest_{Min}}, SC_{Median}, P\right)$$

Where *GP* is the government coalition, *OP* the closest opposition party, *SC* the second chamber, and *P* the President. The data is collected from Jahn et al. (2017) and allows for broad cross-national coverage in the period 1985-2016.

Communist legacy

Another variable that has been controlled for in previous studies on responsiveness concerning European countries is the communist legacy of Eastern European countries (Peters and Trechsel 2017). The Eastern European countries are not as experienced with democratic practice in comparison to other countries included in this study. Because of this, I have constructed a dummy variable that indicates whether the country has a communist legacy (1) or not (0).

Ex-ante spending levels

According to the thermostatic model of responsiveness, past policy may influence subsequent spending preferences (Wlezien 1995; Soroka and Wlezien 2010). Higher (lower) spending levels should reduce (increase) support for spending. Therefore, to control for the thermostatic effect, I include the ex-ante level of spending for each country-issue-year (Bartels 2015, 2017; Schakel, Burgoon, and Hakhverdian 2020).

Issue dummies

To maximize number of observations, I rely on pooled data for eight different issues. It is expected that patterns of spending change may vary across issues. Therefore, to control for this variation, I include dummy variables for each issue except from culture and arts that functions as the reference group.

4.2 Methods

In this study, I am investigating government responsiveness towards preferences of citizens and if government is more responsive to some income groups than others. Moreover, I examine the effect of direct democracy on responsiveness. In this section, I outline my approach to analyse my dataset in order to test the hypotheses presented in chapter 3. I explain the process of selecting method step by step by testing assumptions of the ordinary least squares method and consider alternative estimations that may be better suited for the time-series cross-sectional data structure. The main method employed to investigate the opinion-policy link is pooled OLS regression with panel-corrected standard errors and this estimation technique is supplied with random effects models.

4.2.1 Time series-cross section data

My dataset consists of multiple observations taken over time on the same units. In other words, I am dealing with a type of panel data, which gives me the opportunity to combine the virtues of cross-sectional and time-series analyses. The former approach makes it possible to compare countries, but only at a single point in time, while time-series analyses permit comparison

within units over time, but not across units. Pooling cross sectional and time series data is advantageous for a number of reasons (Plümper, Troeger, and Manow 2005, 329). First, it makes it possible to increase number of observations. Second, I can control for exogenous shocks by controlling for time effects. Third, omitted variable bias can be reduced by controlling for unit effects.

Time-series cross-sectional data is often contrasted with panel data in that TSCS data often contains more slowly changing, historically determined variables in higher-level entities (Bell and Jones 2015, 134). My dataset covers five time points and 26 cross sectional units. However, the TSCS structure is unbalanced, meaning that the number of observations per unit vary. Missing observations are a recurring problem with TSCS analysis. However, the unbalanced structure is not itself regarded as a problem as long as the values are not structurally missing (Dougherty 2011, 530). Missing values in the dataset do not correlate with the values of countries in the respective years, and they are mainly resulting from differing numbers of ISSP survey modules and unavailability of spending data for each issue and year.

Although there are several advantages of time-series cross-sectional data as opposed to just cross-sectional data, the time component also complicates the analysis. Therefore, ordinary least squares regression may fall short and other better suited approaches for analysing panel data must be considered. Next, I discuss the assumptions of the OLS regression analysis and introduce other techniques for time-series cross-sectional analysis.

4.2.2 TSCS data structure and OLS assumptions

Ordinary least regression analysis is the most basic method for computing regression models. It is also the optimal approach if errors are assumed to be generated in an uncomplicated manner (Beck and Katz 1995). However, observations are usually not independent, and certain conditions must be met in order for OLS to be the best linear unbiased estimator (BLUE). Plümper, Troeger, and Manow (2005, 329) emphasize four potential violations of OLS standard assumptions in TSCS data. First, errors tend to be autocorrelated – that is, they are not independent from one time period to the other. Second, errors tend to be heteroscedastic – that is, they tend to have different variances across units. Third, errors tend to be correlated across units due to common exogenous shocks. Fourth, errors may be autocorrelated and heteroscedastic at the same time. Through tests, I can check whether errors are autocorrelated,

heteroscedastic, or cross-sectionally dependent. If they are, OLS assumptions are violated and alternative estimation techniques should be considered.

No autocorrelation

An important assumption for OLS regression is no autocorrelation (Kellstedt and Whitten 2018, 191). This means that deviations of observations from their expected values are uncorrelated. However, autocorrelation often occurs in time-series data, and due to the time dimension, this is a potential threat when analysing such data structures. When we have autocorrelation, it implies that error terms in a time series transfer from one period to another. The error for one period is correlated with the error for a subsequent period. The presence of autocorrelation thus makes it misleading to think of consecutive time points as independent observations (Pennings, Keman, and Kleinnijenhuis 2006, 167). The presence of autocorrelation may result in inefficient OLS estimates, exaggerated goodness of fit, and too small standard errors (Dougherty 2011, 429). Autocorrelation is more likely to happen when the changes of values on variables are limited over time, which is usual when the time periods are closer. In my dataset, the time points have a minimum of four years in between them. This should make autocorrelation less likely.

When operating with stationary data, Beck (2008) argues that OLS is appropriate with respect to time-series issues if the errors are serially independent. Usually, this can be tested using a panel Breusch-Godfrey LM test, where the null hypothesis is that there is no serial dependence. As the p-value for the Breusch-Godfrey test for all my models exceeded 0.05, the null hypothesis of no serial correlation was not rejected, and non-autocorrelation was assumed. This implies that the OLS assumption of no autocorrelation holds.

Homoscedasticity

Another assumption is related to the spread of residuals with the independent variables. The residuals should be homoscedastic, which means that they should have a constant variance, regardless of the value of the independent variables. If the residual variance is much larger for some values of the independent variable than others, they are heteroscedastic. When we have heteroscedasticity, the regression model fits some cases better than others. This may cause

problems when testing hypotheses (Kellstedt and Whitten 2018, 191). The assumption of panel heteroscedasticity is more stringent than cross-sectional heteroscedasticity. This is because we continue to assume that the error variances within each unit do not differ over time (Beck and Katz 1995, 636). To test the presence of heteroscedasticity, I employ a Breusch-Pagan test for unbalanced panels. If the p-value is below 0.05, the null hypothesis of homoscedasticity is rejected. In this case, the null hypothesis is kept, and homoscedasticity is assumed because the test shows that the p-value is higher than 0.05.

No contemporaneous correlation of errors

A third additional OLS assumption that might be breached for TSCS data concerns correlation of errors across cross-sectional units. Large errors for one unit at a certain time point will often be associated with large errors for another unit at the same point of time. When the errors of units observed in each period are correlated, contemporaneous correlation occurs (Beck and Katz 1995, 636). Contemporaneous correlation should be likely in TSCS data concerned with economic variables like GDP in open economies because shocks in one country could affect trading partners. To test for cross-sectional dependence, I run a Breusch-Pagan LM test. Under the null hypothesis, the error terms are not correlated across entities. I reject the null hypothesis as the p-value is below 0.05 and assume the existence of contemporaneous correlation of errors in my data.

4.2.3 Estimation techniques

Pooled OLS with panel corrected standard errors

I have now tested the OLS assumptions, and since the tests showed presence of contemporaneous correlation of errors, a basic OLS regression may fall short. When analysing time-series cross-sectional data, Beck and Katz (1995) suggest the use of OLS estimates with panel corrected standard errors to satisfy the OLS assumptions. These are well-suited for TSCS models plagued by contemporaneously correlated errors (Beck 2008). I follow this recommendation by using OLS with panel corrected standard errors as the main approach. However, to check whether alternative and possibly better estimations yield different results, I also consider other estimation techniques for robustness checks.

Random or fixed effects

Alternative ways of estimating responsiveness are random effects (RE) and fixed effects (FE) models. The core difference between these two approaches lies in the role of dummy variables. In fixed effects models, unobserved effects are built into the model by including dummy variables for each unit. Such models examine the individual differences in intercepts, assuming the same slopes and constant variance across units. All individual specific effects are removed so that over-time variation is isolated, time constant variables are removed, and intercepts are eliminated. Thus, the fixed effects is allowed to be correlated with other included independent variables, and the OLS assumption of no omitted variables is not violated (Park 2011, 8). On the other hand, the random effects model assumes that the random effect is uncorrelated with the explanatory variables included in the analysis. This assumption is strong, and if the assumption is unfulfilled, random effects models lead to biased estimates. Although there are other downsides with FE that will be discussed afterwards, FE are more often employed than RE in the political science literature because of the potentially biased estimates related with RE models.

According to Dougherty (2011, 527), fixed effects should be utilized when the observations cannot be described as being a random sample from a given population. In the case of this analysis, the population is advanced democracies, while the sample contains a range of OECD members included in the ISSP: Role of Government survey. Although it could be argued that this sample is random in a way, it is likely that some groups of countries are oversampled. If I, however, come to the conclusion that the sample is random, Dougherty (2011, 527) argues that I should check whether the grouped coefficients in the fixed effects model and the random effects model (or pooled OLS model) are significantly different. This is tested through a Hausman test. According to the view adopted by Dougherty, differing estimates in the two models should imply use of the fixed effects model. If the p-value is below 0.05, the null hypothesis of no significant differences is rejected, and FE is recommended.

However, the only question considered in the fixed effects model is whether temporal variation in X is associated with temporal variation in Y. Cross-sectional effects are eliminated, thus making it nearly impossible to estimate impacts of variables that stay almost constant over time (Beck 2008). This is a serious problem when investigating the impact of institutions because they rarely change over time, and this is also the case for institutions of direct democracy. This

makes fixed effects models ill-suited to estimate the effect of direct democracy on government responsiveness, and I must therefore rely on alternative estimations.

Furthermore, even though fixed effects models are more often used, others argue that random effects models are the favourable option because it keeps valuable information that is cut out by fixed effects models (Bell and Jones 2015). While RE models do have an endogeneity problem, FE models removes endogeneity without concerning the source even though this is interesting in itself. Moreover, Middleton et al. (2016) show that FE may increase rather than reduce bias in some cases, while Plümper and Troeger (2019, 39) find results that invalidate the common interpretation of the Hausman test. Although significant differences between the estimates of RE/pooled OLS models and FE models should imply the use of FE, FE models were found to give more biased estimates than the two other models. Thus, they conclude that refusion of the null hypothesis in the Hausman test should not necessarily imply that FE are recommended. Therefore, I employ random effects models as a supplement to the main pooled OLS regression models.

Interaction models

According to Brambor, Clark, and Golder (2006, 64), analysts should include interaction terms whenever they want to test conditional hypotheses. Studies investigating effects that are expected to vary under different institutional contexts often tend to make use of multiplicative interaction models (e.g. Gerber 1996; Bernauer, Giger, and Rosset 2015). Since I examine the effect of institutional set-up on government responsiveness towards preferences of citizens, more specifically on the effect of direct democracy, I make use of interaction terms. For instance, I expect bottom-up mechanisms of direct democracy to enhance responsiveness towards public preferences. Thus, the effect of public preferences (X) on government spending (Y) is expected to be at least partly conditional on the presence of bottom-up mechanisms (Z).

Random slope models

In the main analysis I rely on data that are pooled across issues, but I also want to exploit the variety of issues to see if responsiveness may be different from issue to issue. In order to do this, I rely on multilevel modelling and specification of random slope terms. The data are thus

treated as multilevel with country-year on the first level and issue on the second level. First, basic random intercept models are specified. These models are compared with random slopes models, and Akaike's Information Criterion (AIC) is used to indicate whether model fit is improved when I let the effects of spending preferences on spending change vary for issue. Moreover, I present forest plots to indicate whether responsiveness is significantly stronger or weaker than the fixed effects. To control for year effects that may be present in the TSCS data structure, I also include survey wave dummies in the models.

4.2.4 Assumptions in TSCS models

Some assumptions for OLS, that are relevant for time-series cross-sectional analysis have already been discussed and some have been tested for as well. Below, I discuss additional assumptions for TSCS analysis not covered so far.

Stationarity

When analysing time-series data, stationarity is often an important underlying assumption. This means that the statistical properties of a process that generates a time series do not change over time. If time series are nonstationary, there is a heightened risk of spurious regression (Dougherty 2011, 387). Non-stationarity can be caused by unit roots, potentially leading to dramatically misleading results (Beck 2008). In order to examine whether the data are nonstationary, augmented Dickey-Fuller tests were run. This enables me to test the null hypothesis that unit roots are present. When the tests were run for each variable, the p-values for each variable were over 0.05, meaning that the null hypotheses were rejected, and stationarity was assumed.

Linearity

In linear regression models, the relationship between X and Y must be linear, meaning that the relationship between the variables do not vary, but is the same across all values of X (Kellstedt and Whitten 2018). If linear regression fits poorly with the data, this may lead to

weak estimates. This assumption was checked by looking at residual plots, and it became clear that the statistical relationships that this thesis is concerned with are linear.

Normality

Linear regression models is also said to require that the residuals are normally distributed (Kellstedt and Whitten 2018, 190). Normality can be tested using a quantile-quantile (Q-Q) plot where the data points should lie approximately on a straight line for the normality assumption to be fulfilled. I find that the assumption is not fulfilled. However, the assumption could be relaxed when the sample size is large because the central limit theorem ensures that the distribution of the residuals will approximate normality (Pek, Wong, and Wong 2018, 2). The number of observations in my main regression models are about 180 at a minimum, which should be enough for the assumption to be less critical.

Outliers

When executing regression analyses, it is important to check whether unusual observations unduly influence the results (Kellstedt and Whitten 2018, 232). An outlier in a regression is an observation with an unusual dependent variable given the independent variable. Individual cases may be outliers that unreasonably influence the results. To inspect for cases with unreasonable leverage on the results, I used the Cook's Distance formula and checked if the model estimates changed dramatically when some seemingly more influential outlying cases were dropped.

Multicollinearity

An important assumption for regression analysis is that the independent variables do not perfectly correlate with each other (Kellstedt and Whitten 2018, 238). In situations with strong correlation between the independent variables, the coefficients in multiple regression models may change erratically because of small changes in the models. The literature on differential responsiveness is usually troubled by multicollinearity because the preferences of different income groups often overlap. My thesis is no different from other studies in the literature on

this matter, and this makes it a challenge to disentangle the effects of the preferences of different income groups. Furthermore, regression results must be interpreted carefully when simultaneously including spending preferences of different income groups into the models.

The presence of multicollinearity can be measured by estimating variance inflation factors (VIF) for the independent variables. A rule of thumb is that VIF scores in the excess of 10 suggest that multicollinearity may cause problems in estimation (Chatterjee and Hadi 2012, 250), but there are other more stringent cut-off points than this. Some suggest that multicollinearity may be a problem when VIF scores exceed 5 or even 3.

4.3 Considerations on causal inference

Since I am concerned with causal effects concerning policy preferences and policy output, a discussion about causality is called for. Kellstedt and Whitten (2018, 55-56) identify four hurdles on the route to establishing causal relationships. First, they stress the importance of considering whether there are credible causal mechanisms connecting X to Y. Second, they emphasize that there must be covariation between X and Y. Third, we must rule out the possibility that Y could cause X. Fourth, alternative explanations must be ruled out.

The first hurdle is cleared by presenting logical theoretical explanations for how political preferences affect political decisions and thus public spending. The second problem is simply solved by finding correlation between spending preferences and public spending. The third hurdle can often be more problematic, especially without a time dimension. As previously mentioned in chapter 2, research have shown that the relationship between public opinion and policy is reciprocal (Wlezien 1995). Because responsiveness goes both ways, endogeneity has been a problem in the literature. This is especially a problem when the dependent variable is specified in levels (Schakel, Burgoon, and Hakhverdian 2020, 134). However, because I operate with a sort of partially differenced model, meaning that the dependent variable is specified in spending changes the years following the survey waves, I can rule out the possibility that X is caused by Y. The last hurdle is more difficult as it is impossible to know for certain whether I have controlled for all possible alternative explanations. Moreover, data availability also limits the alternative explanations I can control for. To reduce the problem of omitted variable bias, I include several control variables that previously have shown to affect government spending.

However, since I rely on pooled spending data covering several completely different issues, it is unfortunately difficult to control for factors that may affect spending in each respective area.

Because I am investigating government responsiveness, another consideration about causality should be made relating specifically to this topic. According to the pessimistic view of Achen and Bartels (2017, 312-313), most voters are not listening to the policy views of parties or are simply thinking what their party tells them to think. Hence, the policy views of politicians are roughly similar to those of the public and politicians will seem to be representative. They therefore regard the relationship between preferences of voters and preferences of politicians in the research tradition on responsiveness as only of descriptive interest. The relationship is not seen as causal. Policy output may be a result of the dominant political parties' own views and may merely covary with citizens' preferences as a result of citizens adopting the views of the political elites. My analytical approach does not permit me to investigate the underlying causal mechanism that explains how preferences and policy may covary. Thus, it is impossible for me to completely reject the argument in this thesis.

5. Results

5.1 Outline of the analysis

The analysis will proceed in four steps. First, I intend to investigate whether policy is responsive to the preferences of the median voter by using OLS regression that takes into account the structure of the data to estimate the effects of spending preferences on government spending. In addition, I use random slope models to examine whether responsiveness varies between issues. Second, I separate the spending preferences of different income groups and run regressions to investigate whether preferences of different income groups influence spending to varying degrees. In this way, I can show whether government responsiveness is biased towards the preferences of the rich. Third, multiplicative interaction models are used to estimate the effects of direct democracy on the opinion-policy link. Finally, I examine further whether different income groups exert stronger or weaker influence on policy output under direct democracy.

5.2 Responsiveness towards overall preferences

In chapter three, I presented a theoretical argument regarding the influence of the median voter on public policy under democracy. The argument is also supported from a normative view as it regards ordinary citizens as influential, and equally influential, in the shaping of public policy. As mentioned earlier in chapter 2, this notion has gained support by an extensive literature on the opinion-policy link (e.g. J.D. Huber and Powell 1994; Golder and Stramski 2010; Soroka and Wlezien 2010). Because of this, as expressed in the first hypothesis, I expect the average spending preferences to significantly affect spending changes in a positive direction, implying government responsiveness towards the preferences of the average citizen.

The regression coefficients are presented in table 5.1. They show that the average preferences of the middle-income quintile are positively and significantly related to spending levels. I also expected that measure of central tendency should have little impact on the results. The effect of median preferences seems to be pretty similar to the effect of average preferences, thus confirming this notion. The results indicate that government spending is, at least to some extent, responsive to the preferences of citizens.

Table 5.1: Responsiveness to general spending preferences

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Overall spending preferences	0.041***	0.031**	0.040**	0.056**		
	(0.013)	(0.013)	(0.017)	(0.028)		
Median spending preferences					0.053**	
					(0.021)	
Middle-income preferences						0.051**
						(0.026)
Δ GDP (%)	-0.646***	-0.117	-0.129	-0.169	-0.169	-0.168
	(0.223)	(0.268)	(0.285)	(0.283)	(0.283)	(0.284)
GDP per capita	-0.00001	0.00002	0.00003	0.00003	0.00003	0.00003
	(0.00002)	(0.00003)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Δ Unemployment rate (%)		0.122***	0.131***	0.125**	0.125**	0.125**
		(0.044)	(0.049)	(0.048)	(0.048)	(0.048)
Post-communism		1.096	1.358	1.143	1.143	1.198
		(1.137)	(1.329)	(1.320)	(1.320)	(1.327)
Government ideology			-0.007	-0.011	-0.011	-0.010
			(0.026)	(0.026)	(0.026)	(0.026)
Veto players			-0.029	-0.027	-0.027	-0.034
			(0.064)	(0.062)	(0.062)	(0.061)
Spending (%)			-0.202	-0.794**	-0.794**	-0.793**
			(0.172)	(0.353)	(0.353)	(0.353)
Defence				0.360	0.360	0.284
				(1.411)	(1.411)	(1.405)
Education				-0.017	-0.017	0.154
				(2.558)	(2.558)	(2.521)
Environment				-2.164	-2.164	-2.037
				(1.782)	(1.782)	(1.759)
Health				1.037	1.037	1.193
				(2.767)	(2.767)	(2.738)
Law and order				-2.048	-2.048	-1.970
				(1.766)	(1.766)	(1.756)
Old age pensions				3.299	3.299	3.474
				(3.240)	(3.240)	(3.211)
Unemployment benefits				-3.598**	-3.598**	-3.637**
				(1.604)	(1.604)	(1.606)
Constant	0.362	-1.440	-1.314	0.699	0.699	0.709
	(1.168)	(1.327)	(1.755)	(2.037)	(2.037)	(2.042)
N	423	415	358	358	358	358
N of countries	27	26	22	22	22	22
N of country-issues	188	187	160	160	160	160
Adjusted R-squared	0.041	0.052	0.054	0.059	0.059	0.058

Note: Models report results from pooled OLS regression analyses. Panel-corrected standard errors are reported in parentheses. The dependent variable is changes in government expenditures in the year after the surveys, and changes in GDP and unemployment are collected from the same time points as the dependent variable, while other variables are gathered from the same year as the survey waves. *p<0.1; **p<0.05; ***p<0.01

This is also supported in the models where the dependent variable is changes in spending in the following two years (see appendix B).[12] However, in other models where spending change over longer time periods is considered, the findings are somewhat less certain. There is no statistically significant relationship between the levels of spending preferences of overall spending preferences and changes in government spending in the following three or four years, but the coefficients remain positive (see model 6 in appendix B for the three-year specification). Nevertheless, the fact that the association between preferences and spending stays significant when all controls are included suggests presence of government responsiveness, at least in the shorter term. It is reasonable to assume the weaker and not significant relationship between opinion and policy over longer time periods to be a result of changing spending preferences over time.

The fact that the effect remains consistent when I control for the effect of other variables and use different temporal specifications also shows that there is a robust relationship between public preferences and policy output in following years. Robustness is further enhanced as I also used random effects models that showed similar results (see appendix D). Hence, the hypothesis of the significant effect of policy preferences on policy output is supported. These results corroborate the main findings in the literature on congruence and responsiveness, suggesting that government policy is responsive towards overall policy preferences.

When it comes to other coefficients in the analysis, we can see that the GDP growth coefficient is negative, in line with expectations. However, the significant effect disappears when the variable for changes in unemployment rate is included. Unemployment seems to have a consistently positive and significant effect. It is surprising that this effect is stronger since spending is measured as percentage of GDP and spending thus varies mechanically according to changes in GDP.[13] The consistently strong relationship between change in unemployment rate and spending also applies for the other models included in this thesis.

Furthermore, GDP per capita is negatively associated with spending, but the association is not significant. However, GDP per capita is positively and significantly related to spending changes in the long term (see appendix B). We can see that government ideology is negatively related

[12] When using spending in the two following years as opposed to just the following year, Latvia-unemployment benefits 2007 proved to be an influential outlier that affected the outcome to an unreasonable extent. This is also indicated in the Cook's distance plot that can be found in appendix C.

[13] To check whether this was the cause of some measurement error, change in unemployment was swapped with an unemployment *levels* indicator to test whether the results changed. This did not change much for the variables of main interest in this analysis other than that the coefficients were a bit stronger.

to spending, suggesting that leftist governments tend to spend more. Nevertheless, the association is not significant. Moreover, having a communist legacy seems to positively affect spending, but the effect is not significant, while veto players are negatively related with the dependent variable. We can also see that spending levels in time t is negatively and significantly associated with later spending changes when I control for issue.[14] This is in line with the thermostatic model that expects spending levels to lower when they are high. Finally, by looking at the issue dummy variables (culture and arts is excluded), we can see that unemployment benefits is the only significant coefficient of these, suggesting that spending change on this area was more negative compared to culture and arts.

In sum, there seems to be a robust effect of average or median spending preferences on spending changes. This suggests that policy, at least in terms of spending and in the shorter term, indeed is responsive to what citizens want, and thus, the results corroborate previous findings in the literature.

5.2.1 Issue responsiveness

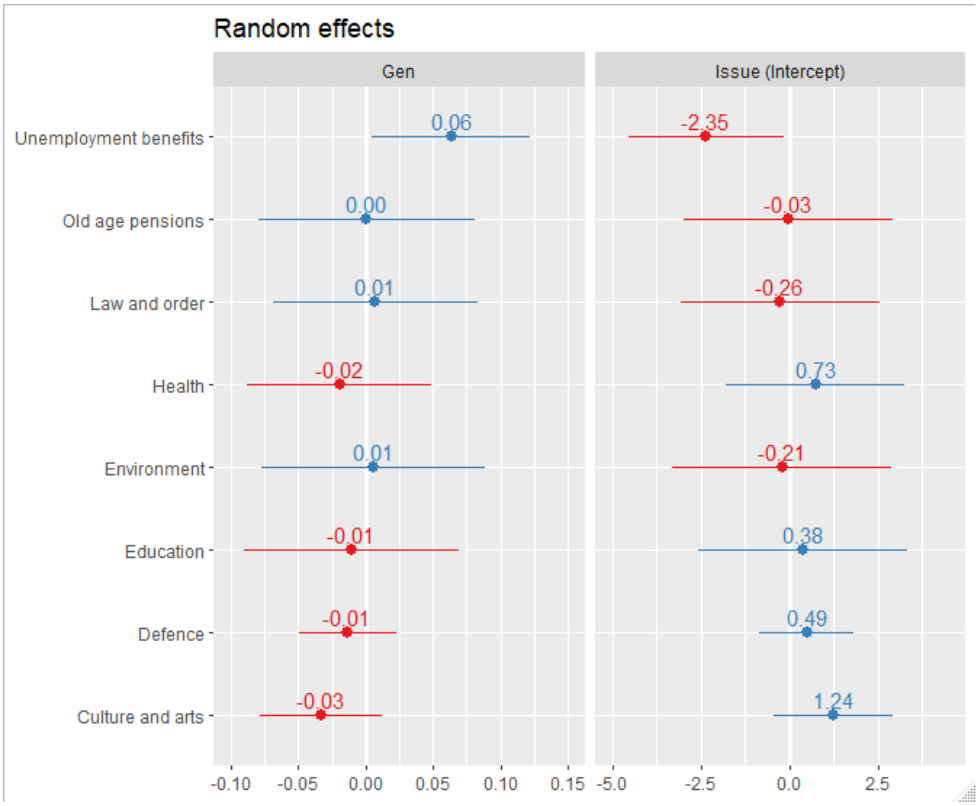
While pooled data across issue domains provides a more complete view of representation overall, I also want to exploit this variation to investigate whether governments are more responsive on certain issues. Because of the low number of units, I refrain from making strong conclusions about the results, but it is possible to get some indication of responsiveness on different issues. Previous findings have shown that responsiveness tend to differ across issue domains (Wlezien 2004; Hobolt and Klemmensen 2008; Bernardi 2018). To get an insight into whether responsiveness is different for various issues, I run a random coefficient model since this allows the explanatory variable to have a different effect for each issue.

The estimates of random coefficients and random intercepts are shown in figure 5.1, and corresponding regression tables can be found in appendix E. The forest plot shows with 95 % confidence intervals whether the variability in the random coefficients and random intercepts are different from 0 and whether they are higher or lower than the fixed effects estimate. We can see that estimates for most of the issues are not significantly different from the fixed effects estimate. The exception is unemployment benefits that clearly has a considerably stronger

[14] This should not be confused with including a lagged dependent variable, which is common in dynamic regression modelling. The dependent variable is change in spending and not spending levels.

coefficient than the other issues. Thus, responsiveness seems to be stronger for this issue. The coefficients for old age pensions, law and order, and environment indicate that the level of responsiveness is higher for these issues, but none of these effects are close to being significantly different from the average effect. Moreover, responsiveness seems to be lower in the health, education, defence, and culture sectors, but none of these coefficients are significantly different from the average effects.

Figure 5.1: Plot of random coefficients and intercepts



Although there seems to be some differences, the random coefficients do not indicate that much variation in responsiveness between issues. Letting the effect of preferences vary between issues do not result in a better fit of the data than not doing so. This becomes apparent when looking at the AIC indicator where smaller values reflect better model fit (Finch, Bolin, and Kelley 2014, 47).[15] Rather than dropping, AIC increases by about 3 points from the random intercept model to the model with random intercepts and random slopes.

[15] Note that AIC tells us nothing about the absolute quality of the model, only the relative quality when models are compared.

A concern that should be considered is that the data do not fulfil the normality assumption.[16] Non-normal distributions have proven to have little or no effect on the estimates of the fixed effects in multilevel models, but they may affect the random effects estimates (Maas and Hox 2003). On the other hand, Beck and Katz (2007, 189) find that the estimates of random coefficient models perform well under non-normal distributions when it comes to both the fixed and the random coefficients, and the normality assumption is thus not seen as critical. Nonetheless, outliers may still be a problem in that they may substantively affect the random slopes. I find that the random slopes are somewhat sensitive to the exclusion of certain cases. To solve this problem, Bell and Jones (2015, 136) suggest using dummy variables for the outliers within the random effects framework. To check for the presence of influential outliers, I rely on Cook's distance plots. If the Cook's distance score was high for some cases, I excluded them to see whether the results changed considerably. The unemployment benefits slope is relatively stable independent of the sample, but when some influential outliers are dropped, the effects for defence and culture and arts are significantly weaker than the mean effect.[17]

For robustness checks, I also look at two-year change in spending (a forest plot can be found in appendix F). This sample is more sensitive to the presence of outliers, and in the results represented here, some cases are dummied out because they did not fit with the models while their inclusion implied biased results: spending on environment in Hungary 1996, spending on old age pensions for Latvia 2007 and spending on unemployment benefits for Latvia 2007 and Spain 2007.[18] We can also see here that the random effects of unemployment benefits remain significantly stronger than the fixed effects estimate, while the effects for defence and culture and arts become significantly weaker, though also these coefficients remain positive.

In sum, the results indicate that responsiveness vary modestly between issues. In a sense, they thus support the previous findings in the responsiveness literature indicating that responsiveness indeed varies from issue to issue. This may be explained by the "saliency" theory, which postulates that political competition is not primarily about competing ideologies but about emphasising certain issues (Petrocik 1996; Hobolt and Klemmensen 2008, 310). Representatives may prioritise some issues to enhance their chances of re-election because the

[16] One way to deal with this would usually be to log transform the variables. However, this requires that the variables only exclusively of positive values which is not the case for several of my variables, including the dependent variable.
[17] I did not find space to include all models here.
[18] These cases also had standardized residuals more than 2.5 standard deviations away from 0.

vote from their constituencies are not primarily driven by ideological views but concerns about specific issues.

The results show that government spending is more responsive when it comes to unemployment benefits. Moreover, there is some indication that spending on defence and culture and arts is less responsive to average preferences. From the saliency perspective, this would indicate that unemployment benefits generally are of stronger concern for voters – or representatives may be under the impression that voters regard the issue so – while defence and culture and arts are viewed as less important. However, since the findings are based on a small number of units, they are tentative and subject to challenge.

5.3 Unequal responsiveness

I have shown that spending preferences seem to be positively related to later spending output, indicating that government spending is responsive to the preferences of citizens overall. However, recent literature has shown that even though government policies have seemed to be responsive towards citizens, responsiveness is tilted towards the rich, and thus, they refute the assumptions of political equality grounded in normative democratic theory and the median voter theorem (e.g. Gilens 2012; Peters and Ensink 2015; Bartels 2016, 2017). This is theorized to happen for several reasons, most prominently because the rich participate more in all political arenas, they are better descriptively represented, and their views are more likely to be supported by influential interest groups. I therefore formulated the following hypothesis in chapter 3: *The preferences of higher income groups will have a stronger effect on policy output than the preferences of lower income groups.*

In a way, differential responsiveness is real a problem only to the extent that preferences differ across income groups, so that the preferences specific for one neglected group are overlooked in favour of the preferences of some other group.[19] Moreover, in my analytical approach, it would only be possible to observe to what extent policy is more responsive towards the preferences of some groups if there are some degree of disagreement between the income groups. In table 5.2, we can see that the preferences of different income groups differ significantly and that lower income groups tend to want more spending. We can also see that

[19] The preferences of some group may coincidentally be represented as a consequence of some other more influential group having similar preferences. On the other hand, coincidental representation would not qualify as procedural equality that is central to democracy.

disagreement between income groups varies across issues. There is no difference when it comes to spending on education, while there is clear disagreement on welfare issues like health, old age pensions, and unemployment benefits. With the exceptions of law and order and culture and arts, the preferences of the middle-income group tend to be in the middle of the two other income groups, and the differences between the low-income and high-income groups are usually higher than the differences between the middle-income and low/high-income groups. Moreover, there is a slight tendency for the middle-income group to be closer to the low-income group although the distance varies between issues.

Table 5.2: Differences in spending preferences between income groups

		Mean (standard error)	**Difference (standard error)**
Pooled	Low-income preferences	26.904 (1.125)	
			3.112* (1.628)
	Middle-income preferences	23.792 (1.170)	
			3.867** (1.659)
	High-income preferences	19.925 (1.170)	
Environment	Low-income preferences	27.658 (1.276)	
			3.012 (1.919)
	Middle-income preferences	30.670 (1.411)	
			3.205 (2.109)
	High-income preferences	33.875 (1.543)	
Health	Low-income preferences	56.391 (1.501)	
			2.820 (2.383)
	Middle-income preferences	53.571 (1.820)	
			8.732*** (2.806)
	High-income preferences	44.839 (2.100)	
Law and order	Low-income preferences	26.797 (1.766)	
			3.752 (2.439)
	Middle-income preferences	30.549 (1.653)	
			2.675 (2.305)
	High-income preferences	27.874 (1.580)	
Education	Low-income preferences	45.832 (1.419)	
			1.370 (2.038)
	Middle-income preferences	47.202 (1.439)	
			0.217 (1.990)
	High-income preferences	47.419 (1.350)	
Defence	Low-income preferences	-5.613 (2.677)	
			3.931 (3.851)
	Middle-income preferences	-9.544 (2.722)	
			5.650 (3.797)
	High-income preferences	-15.194 (3.797)	

Old age pensions	Low-income preferences	50.762 (1.565)	
			9.266*** (2.371)
	Middle-income preferences	41.496 (1.754)	
			10.769*** (2.666)
	High-income preferences	30.727 (1.978)	
Unemployment benefits	Low-income preferences	16.875 (1.949)	
			12.448*** (2.911)
	Middle-income preferences	4.427 (2.130)	
			10.990*** (2.968)
	High-income preferences	-6.563 (2.031)	
Culture and arts	Low-income preferences	-3.686 (2.245)	
			1.538 (0.785)
	Middle-income preferences	-5.224 (2.455)	
			3.893 (1.986)
	High-income preferences	-1.331 (2.197)	
Note: Results are based on t-tests. *p<0.1; **p<0.05; ***p<0.01			

In chapter 3, I presented several explanations for why the rich may be more influential than the poor, leading me to expect the effect of spending preferences of higher income groups to be stronger than the effect of the preferences of the lower income groups. To investigate this, I first include both the low-income and the high-income preferences in regression models. Models 1-3 in appendix G show that the preferences of the low-income group are negatively associated with spending levels, while there is a positive relationship between high-income preferences and spending. This suggests that government responsiveness is strongly biased in favour of the rich. Nevertheless, this effect is not significant in the third model where control variables have been considered. In the first three models presented in appendix H, spending over a two-year period is specified as the dependent variable, and this shows a consistently significant association between high-income preferences and spending. However, it must be noted that multicollinearity raises doubt about the results in these models.[20] Although it is well below the minimum criteria of a VIF score below 10, it is higher than the stricter demand of VIF < 5. Moreover, dummy variables for issues are not included in the analysis because this implied intolerable multicollinearity (VIF > 12 for preference variables).

To deal with the multicollinearity problem, different approaches are considered. One way of dealing with it would be to keep the variables for the preferences of different income groups separate. However, this would stop me from controlling for the effect of the opinions of

[20] VIF < 6 in the one-year spending change models and somewhat higher in the models with two-year spending changes as the dependent variable.

different income groups. Thus, the results would be affected by omitted variable bias and turn out essentially meaningless. An alternative approach to address excessive multicollinearity is simply to compute a *rich minus poor* variable for each country-issue-year (Schakel, Burgoon, and Hakhverdian 2020, 154-155). Positive values indicate that the high-income group would like to spend more than the low-income group, while negative values capture situations where the low-income group would like higher spending than the rich. If the rich are more influential than the poor, the rich minus poor variable should correlate positively with change in public spending. The results in models 4-6 in appendix G show that the rich minus poor variable is positively associated with the spending variable. However, when all control variables are included, the effect is not significant. On the other hand, when spending change in the two following years was specified as the dependent variable, the effect proved to be significant when all controls were included (see models 4-6 in appendix H).

Multicollinearity is caused by the fact that spending preferences tend to be quite similar across income groups. The multicollinearity threat should be less serious when there are larger preference gaps between different income groups. Thus, another approach is to subset the dataset based on a certain cut-off point for the preference gap, thereby excluding cases in which preferences are almost overlapping. In this study, preferences are given on a scale from -100 to +100, and the median preference gap is 9.11. I set the cut-off point of the gap to 7, which leads me to regression models with the VIF score of 4.11[21] - a considerable improvement – while the number of units stays high (211).[22] Even though the problem is not completely dealt with, the subset makes up a stronger basis for causal inference. The regression models in table 5.3 show similar results to the models where all cases are included, but the results are even clearer in that the preferences of the rich are consistently significantly affecting spending levels. Thus, these results lend even stronger support to the second hypothesis about differential responsiveness. Government spending is clearly more responsive towards the preferences of the rich than to those of the poor.

[21] For the models that have two-year spending change as dependent variable, VIF for the preference variables is approximately 4.7.

[22] When the cut-off point was set higher than 7, a higher number of observations dropped were dropped. Multicollinearity tends to be higher when there are fewer observations. Therefore, multicollinearity increased again when the cut-off point was too high.

Table 5.3: Differential responsiveness: low- and high-income group

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
	One-year change			Two-year change		
Low-income spending preferences	-0.049	-0.052	-0.039	-0.020	-0.021	-0.048
	(0.035)	(0.034)	(0.043)	(0.072)	(0.068)	(0.076)
High-income spending preferences	0.088***	0.085**	0.076**	0.127*	0.115*	0.148**
	(0.034)	(0.033)	(0.038)	(0.071)	(0.067)	(0.069)
Δ GDP (%)	-0.540**	0.021	-0.028	-0.826***	0.032	-0.050
	(0.230)	(0.282)	(0.314)	(0.292)	(0.324)	(0.341)
GDP per capita	-0.00002	0.00002	0.00000	-0.00004	0.00004	0.00003
	(0.00003)	(0.00003)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Δ Unemployment rate (%)		0.155***	0.155***		0.138***	0.125**
		(0.052)	(0.059)		(0.051)	(0.055)
Post-communism		1.964	1.927		-0.897	-0.738
		(1.587)	(1.826)		(2.407)	(2.452)
Government ideology			-0.024			-0.020
			(0.026)			(0.060)
Veto players			-0.008			-0.046
			(0.087)			(0.205)
Spending (%)			-0.010			0.185
			(0.233)			(0.382)
Constant	1.546	-1.049	-0.718	4.058	-2.461	-2.016
	(1.367)	(1.616)	(2.298)	(3.142)	(3.908)	(4.286)
N	248	247	211	192	191	176
N of countries	27	26	22	24	24	21
N of country-issues	138	138	119	114	114	104
Adjusted R-squared	0.053	0.094	0.083	0.137	0.186	0.178

Note: Models report results from pooled OLS regression analyses. Panel-corrected standard errors are reported in parentheses. The models only include cases in which the preference difference between the low- and the high-income group is above 7.

*p<0.1; **p<0.05; ***p<0.01

5.3.1 The middle-income quintile

According to the median voter theorem, the median voter should be the most influential citizen. However, this theory requires that voters exert equal influence on public policy independent of resources, and I have shown that this assumption is unrealistic. On the other hand, I have only examined the differences between the rich and the poor, and since they are more resourceful than the poor, it is expected that the middle-income group are more important in the shaping of public policy. Yet, although the literature is divided, some studies in different countries have indicated that the influence of the middle-income group is negligible compared to the influence

of the rich (Gilens 2012; Elsässer, Hense, and Schäfer 2018; Schakel 2019). Ideally, I would therefore like to examine whether the great influence of the wealthy also undermine the impact of the middle-income group in the cross-national context that this study is concerned with. However, due to the overlapping spending preferences, it is difficult to disentangle the influence of these two groups. When all observations are included, the multicollinearity is beyond all acceptable limits.[23] Thus, it is necessary to subset the data based on preference difference. I set the cut-off point to 7, which reduces the VIF scores for the coefficients to about 8.5 and hence below the maximum limit of 10.

Regression results in table 5.4 indicates that the middle-income group is negatively, though insignificantly, associated with spending changes, and the preferences of the high-income group is consistently positively related with government spending. This striking finding indicates that the rich also undermine the influence of the middle-income group. Obviously, multicollinearity is still high, so the coefficients should be interpreted carefully. To check for robustness, I used similar models where two-year spending change was specified as the dependent variable. Although the effects pointed in the same direction as previous models, there were no significant relationships between high-income preferences and policy output with these model specifications (see models 1-3 in appendix J).

For an additional robustness check, I use a rich minus middle-income variable in the same way as the rich minus poor variable as this specification is robust to multicollinearity (see model 4-6 in table 5.4). Positive correlation would indicate that the rich are more influential than the middle-income group. We can see that the coefficients are positive in all models, but not statistically significant. On the other hand, for the two-year spending change model specifications, the rich minus middle coefficients were strongly (but not significantly) positive only when all control variables including the issue dummies were included in the regression models (see models 4-6 in appendix J). In sum, the results give some indication that the rich are more influential than the middle-income group. However, multicollinearity is a considerably larger problem, while the rich minus middle models only imply insignificant coefficients. As expected, the differences are less pronounced between the middle-income and high-income group compared to the gap between the low-income and the high-income group. Still, although evidence is not as strong compared to the models focusing on the low-income group, the

[23] VIF-scores are higher than 13 for the spending preference variables.

influence of the high-income group also seems to be dominating compared to the impact of the preferences of the middle-income group.

Table 5.4: Differential responsiveness: middle- and high-income group

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Middle-income spending preferences	-0.099	-0.098	-0.088			
	(0.075)	(0.072)	(0.083)			
High-income spending preferences	0.170**	0.154**	0.157*			
	(0.080)	(0.076)	(0.084)			
Rich minus middle				0.064	0.063	0.050
				(0.048)	(0.055)	(0.072)
Δ GDP (%)	-0.561	0.135	0.007	-0.092	-0.045	-0.074
	(0.362)	(0.391)	(0.410)	(0.270)	(0.288)	(0.284)
GDP per capita	-0.00004	0.00004	-0.00002	-0.00000	0.00003	0.00003
	(0.00004)	(0.00005)	(0.0001)	(0.00002)	(0.00004)	(0.00004)
Δ Unemployment rate (%)		0.210***	0.207***	0.120***	0.144***	0.141***
		(0.068)	(0.076)	(0.042)	(0.049)	(0.049)
Post-communism		3.814	2.760		1.845	1.653
		(2.347)	(2.669)		(1.318)	(1.324)
Government ideology			-0.061		-0.007	-0.010
			(0.051)		(0.026)	(0.026)
Veto players			0.038		-0.037	-0.046
			(0.145)		(0.063)	(0.059)
Spending (%)			-0.196		0.086	-0.837**
			(0.269)		(0.149)	(0.350)
Defence						0.330
						(1.512)
Education						3.051
						(2.038)
Environment						-0.350
						(1.537)
Health						4.976**
						(2.308)
Law and order						0.076
						(1.559)
Old age pensions						6.886**
						(3.008)
Unemployment benefits						-2.338
						(1.879)
Constant	2.204	-2.710	-0.341	0.416	-1.488	0.033
	(2.135)	(2.368)	(3.285)	(1.031)	(1.761)	(2.062)
N	183	181	158	415	358	358
N of countries	26	26	22	26	22	22
N of country-issues	117	116	100	187	160	160
Adjusted R-squared	0.052	0.095	0.084	0.043	0.045	0.050

Note: Models report results from pooled OLS regression analyses. Panel-corrected standard errors are reported in parentheses. The models only include cases in which the preference difference between the middle- and the high-income group is above 7.
$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

In the first section in this chapter, I found support for the first hypothesis in that policy output proved to be responsive to the preferences of the average/median citizen. However, these results show that both the poor and the middle-income group seem to be disadvantaged compared to the rich. In line with my second hypothesis, responsiveness seems to be tilted towards the rich. These findings corroborate those reported in the cross-sectional literature as well as several case studies on unequal responsiveness in advanced democracies.

5.4 Direct democracy and responsiveness

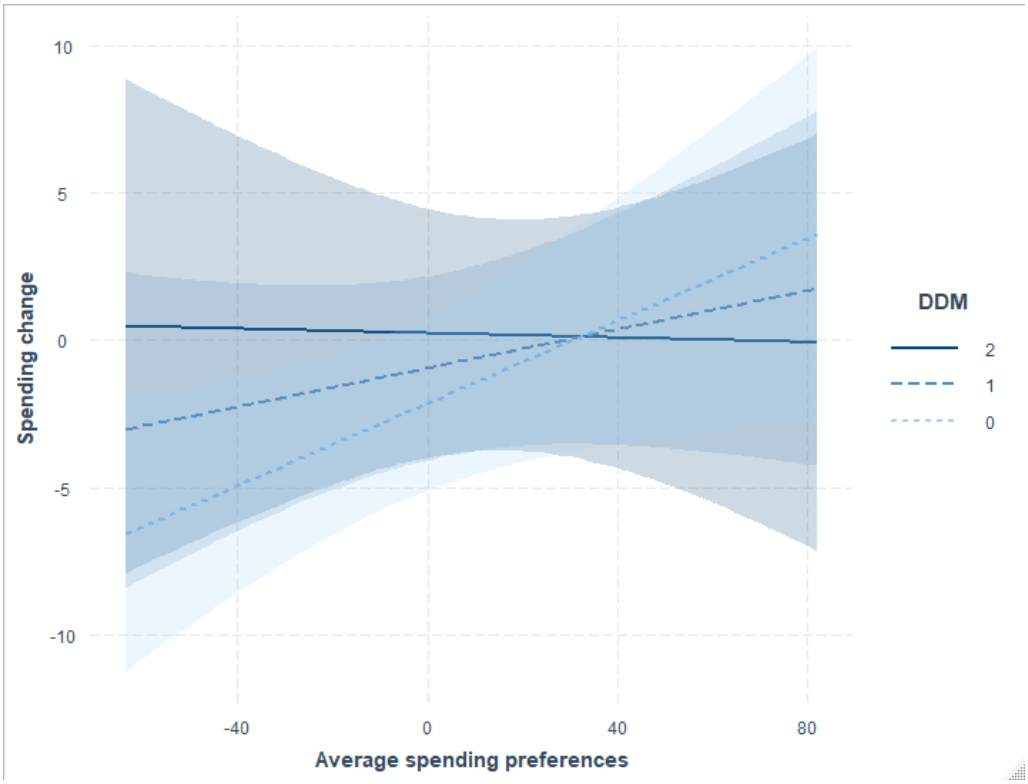
Next, I will present effects of institutional set up implied by direct democracy on responsiveness. The theoretical discussion in chapter 3 suggested that bottom-up mechanisms of direct democracy should enhance responsiveness towards the median voter. This is partly because of the more direct influence citizens may have under direct democracy and the potential political mobilization resulting from this. In addition, direct democracy is expected to include an indirect effect on policymakers anticipating vetoes against unpopular decisions. More responsiveness under direct democracy has also been suggested by some empirical work, but the findings are mixed and mainly on the state/regional level of government (e.g. Matsusaka 2010; Lax and Phillips 2012).

To investigate the effect of direct democracy, I rely on regression models with interaction effects. This allows me to examine whether the effect of policy preferences on public policy is stronger within countries with provisions for bottom-up mechanisms of direct democracy on the national level or when referendums are more frequent. When investigating the effect of direct democratic institutions, differently specified indicators are used. In addition to the main indicator for bottom-up direct democratic mechanisms, I include the full-scale and the agenda initiative on their own. I characterize the full-scale initiative as a stronger mechanism as it allows citizens to promote referendums which in turn gives them the opportunity to directly decide on whether to pass policy proposals or not. Therefore, this mechanism could work better as a corrective mechanism as opposed to the agenda initiative where politicians have the final say.

5.4.1 Bottom-up direct democratic mechanisms and responsiveness

The third hypothesis presented in chapter 3 went as follows: *Greater presence of bottom-up direct democratic institutions lead to stronger effect of average policy preferences on policy output, increasing policy responsiveness.* Results from interaction models including different specifications of direct democratic mechanisms can be found in appendix K. They show that the presence of direct democratic institutions, whether it is agenda or full-scale initiatives, correlates positively with government spending, but none of the coefficients are significant. Against expectations, the coefficients representing interaction effects indicate that the combined effect of spending preferences and direct democratic institutions are negative. Additionally, when other time specifications are considered for robustness checks, the coefficients are closer to zero and the relationship is not significant (see appendix L for regression tables). The results also prove to be similar when the preferences are interacted with agenda and full-scale initiatives separately.

Figure 5.2: Marginal effects of average preferences, conditioned on direct democratic mechanisms



Interaction effects can more easily be interpreted using interaction plots. Figure 5.2 shows the marginal effects of average spending preferences conditioned on direct democratic mechanisms. We can see that the effect is negative, but the confidence intervals are clearly overlapping. Thus, the effect is not significant, and the null hypothesis of no increased effect of average preferences on spending change when there are stronger provisions for bottom-up direct democratic mechanisms is kept. Previous studies have shown diverging results, and my findings corroborate the part of the literature where no effect of direct democratic mechanisms on responsiveness is observed.

5.4.2 Frequency of referendums and responsiveness

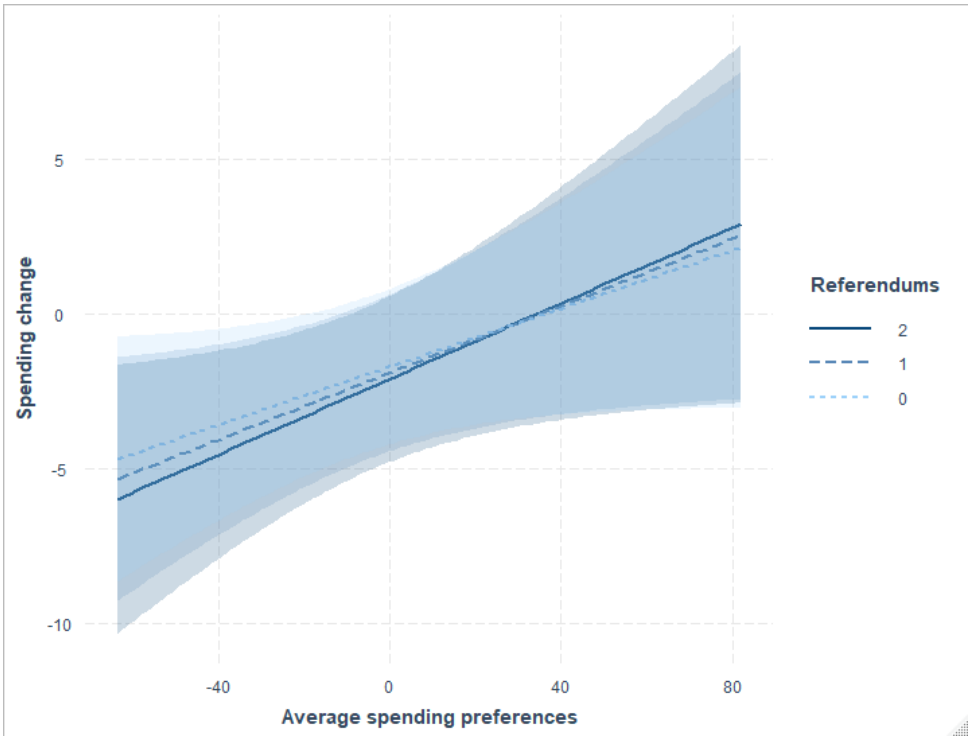
In my analysis so far, it seems like the presence of direct democratic mechanisms matters little for general responsiveness. This may be because the mechanisms are too rarely utilized in many of the countries that allow initiatives. Use of direct democracy may be a better indicator in this respect, since the availability of the mechanism itself does not imply that it is going to be utilized by citizens. Politicians may in that case be less worried about the veto power implied by these institutions when enacting policies because they rarely have been challenged by them in the past. Therefore, I formulated the fourth hypothesis as follows: *More frequent referendums lead to stronger association between average preferences and spending change, meaning that policy responsiveness is increased.*

The regression coefficients can be seen in appendix M, and they show that more referendums seem to be associated with reductions in spending, although the coefficients are not significant.[24] When it comes to the interactive effect between referendums and spending preferences, the coefficients are near zero and insignificant. Moreover, when looking at the interaction plot in figure 5.3, we can see that the lines representing marginal effects of preferences conditioned on different numbers of referendums on spending are almost parallel, which suggests no effects of referendums whatsoever. Since there are no significant effect of frequency of referendums, we can conclude that responsiveness is not higher when more referendums are held, and the null hypothesis is thereby kept. Hence, in contrast to theoretical

[24] Because the frequency of referendums is relatively low, I wanted to exclude the possibility that some countries were coincidentally misrepresented in terms of their tendency for holding referendums. In addition to the indicator representing number of referendums in the survey wave year, I therefore also considered the number of referendums in the five-year period up until the survey wave year. This did not affect the results substansially.

expectations, neither the existence of mechanisms nor use of direct democracy is strengthening government responsiveness towards average preferences.

Figure 5.3: Marginal effects of average preferences, conditioned on referendums



5.5 Direct democracy and inequality of responsiveness

In the theoretical discussion, I argued that direct democracy may reduce inequalities of representation resulting from legislatures and organisational interests being biased in favour of in addition to strengthening political participation among disadvantaged societal groups. On the other hand, direct democracy may also impair participation because of the higher costs of participation that comes with more frequent political efforts. Moreover, mobilization of signatures and organizing referendum campaigns is made easier with financial resources. Because of this, some scholars have suggested that democracy may enhance representational inequalities resulting from economic inequality, while others argue that it may have an alleviating effect. However, with the exception of Flavin (2014) little empirical research has examined this effect. In this section, I am exclusively concerned with the effect of presence of mechanisms as the interaction between spending preferences and referendums seemed to be

non-existent.[25] I formulated two rivalling hypotheses in chapter 3. H4a suggests that stronger presence of bottom-up direct democratic mechanisms strengthen responsiveness to the preferences to the poor in comparison to the preferences of the rich, while H4b postulates that bottom-up institutions strengthen the effect of the preferences of the rich compared to the preferences of the poor.

Differently specified interaction models are used to measure the effect of direct democratic institutions on inequality of responsiveness based on income. In the two first models in appendix N, both the high-income and low-income groups are included in the models, but the preference variables are interacted with the institutional variable separately in the two models. We can see that both coefficients are negative, thus signalling that preferences of both the low-income and the high-income group is worse represented when there are direct democratic mechanisms present. The high-income group seems to come out slightly worse. The difference is more pronounced in the third model when both interaction terms are included in the same model. The low-income preferences coefficient becomes positive, while the high-income coefficient is more negative, but the coefficients are not statistically significant. When looking at the interaction plots (corresponding to model 3 in appendix N), we can see that responsiveness to the low-income group is higher when there are more provisions for direct democratic mechanisms (see figure 5.4), while responsiveness is lower for the high-income group (see figure 5.5), but none of these effects are statistically significant as the confidence intervals are clearly overlapping.

[25] I also ran multiplicative interactive regression models with referendums, but as suspected, they did not seem to have any impact on the effect of the spending preferences of different income groups on spending.

Figure 5.4: Marginal effects of low-income preferences, conditioned on direct democratic mechanisms

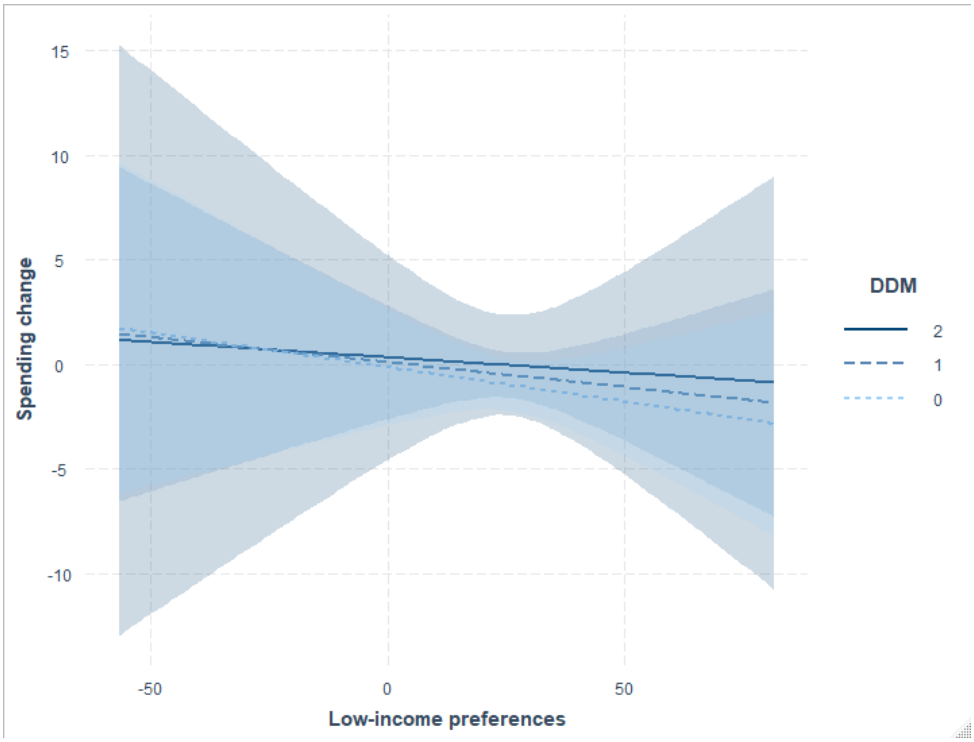
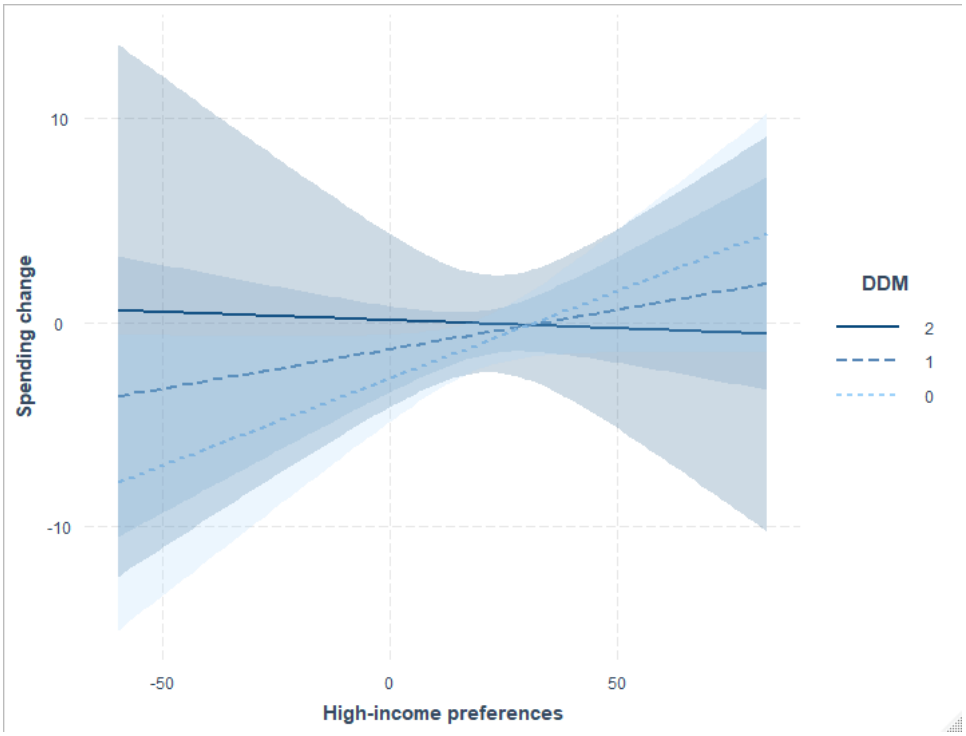


Figure 5.5: Marginal effects of high-income preferences, conditioned on direct democratic mechanisms



Again, multicollinearity is problematic when simultaneously including different income groups in the regressions, and it becomes especially high when interaction effects are introduced.[2627] Brambor, Clark, and Golder (2006, 70) also claim that the multicollinearity problem in multiplicative interaction models is overstated. I still want to exclude the possibility that the findings are heavily affected by multicollinearity. Some argue that centering predictors may alleviate multicollinearity resulting from including both the main effects and interactions in the same model (Finch, Bolin, and Kelley 2014, 54). This simply implies subtraction of a mean value from each score in the variable. When this was done, the variation inflation factors for the interaction effects were considerably lower.[28] Moreover, the main effects coefficients were somewhat reduced when the variables were centered, while the interaction effects remained stable. However, Brambor, Clark, and Golder (2006, 71) argue that centered models do not change the statistical certainty of the estimated effects, and therefore, they do not provide solutions to high multicollinearity. Because of that and the close to identical results for both alternatives, only the "uncentered" models are presented here.

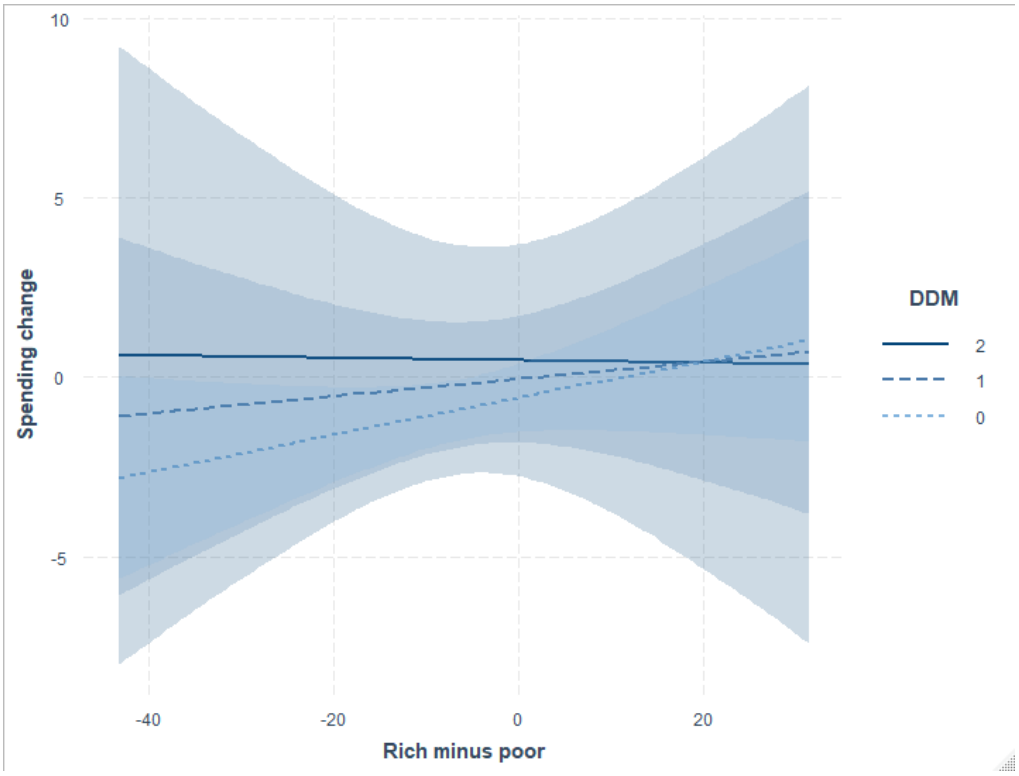
To handle multicollinearity, I use an approach based on the "multicollinearity robust" variable introduced earlier in this chapter. This implies interacting the rich minus poor variable with the direct democratic institutions variable. A positive coefficient would indicate that the presence of bottom-up institutions of direct democracy increases influence of the rich compared to the influence of the poor, while a negative coefficient would suggest that the representational gap is reduced by such institutions. Regression model 4, 5, and 6 in appendix N show that direct democracy may reduce representational inequalities, but the effects are not significant.

By looking at figure 5.6, we can see that when the direct democratic mechanism score is below 2, the effect is positive, while it turns negative in the strongest possible presence of direct democratic mechanisms. This supports my hypothesis. However, we can tell by the way in which the confidence intervals are overlapping that the effect is far from significant. To check for robustness, I have also run the same regressions on two-year spending changes (appendix Q). These regressions further supported the findings reported earlier, but none of the coefficients are statistically significant.[29] Although the coefficients point in the directions expected in hypothesis H5a, the null hypotheses for both H5a and H5b are kept as the

[26] VIF for interaction terms in model 1: 3.01; model 2: 2.73; model 3: 15.86 and 14.41.
[27] I also ran regression models with subsets where preference difference was higher than 5 or 7 to lower multicollinearity. The results were similar for these models.
[28] VIF for interaction terms in centered model 3: 5.63 and 5.7.
[29] I also ran regressions on a subset with higher preference difference, hence with lower multicollinearity. The results remained roughly the same.

correlations are weak and not significant. In other words, there does not seem to be a considerable impact of direct democracy on inequality of responsiveness.

Figure 5.6: Marginal effects of rich minus poor, conditioned on direct democratic mechanisms



6. Discussion and conclusion

The notion that government policy should take equal consideration to the preferences of each citizen is a core democratic value. However, previous studies focusing on established democracies have found that the affluent are much more influential. The increased interest in explaining how such representational inequalities are taking shape developed from these findings is the background for my research question: *Do institutions of direct democracy moderate unequal responsiveness according to income?* To answer the research question, I aimed to link citizens' preferences with policy output. In this way, I was able to examine whether government policy corresponds to what citizens want and investigate whether there is a systematic bias in responsiveness according to income. Moreover, this study also explored whether direct democracy affects responsiveness and the possibility that such institutions can be consequential for representational inequalities. In this chapter, a final discussion is made on the findings in this study. I start out discussing the findings that are pertaining to the first two sub research questions before elaborating on the findings regarding the main question.

6.1 Is government policy responsive to preferences of citizens?

In chapter 3, I presented a theoretical expectation, derived from democratic norms and the median voter theorem, that government policy in modern democracies should be responsive to the preferences of the median voter. I present results showing that there is a statistically significant relationship between spending preferences and spending change in the following year, that persists when controls are included. Moreover, this relationship persists in alternative models where spending in the two following years after the survey waves is specified as the dependent variable and when alternative estimation techniques are employed. In sum, this indicates a strong support for the hypothesis that government policies are responsive to preferences of citizens, at least in the short term. There was no significant relationship between preferences and changes in spending in the next three or four years after the survey years. This may, however, be due to thermostatic shifts in spending preferences caused by short term spending changes.

Furthermore, previous studies have found that the degree of policy responsiveness varies between issue domains (Wlezien 2004; Hobolt and Klemmensen 2005, 2008; Bernardi 2018). To examine this further, I specified multilevel models with random intercepts and slopes for

issue. Although the number of cases is too small to make strong conclusions, I found some modest differences and that the effect for unemployment benefits were considerably stronger than the mean effect. Additionally, there is some indication that responsiveness on the areas of defence and culture and arts is weaker than the mean.

These findings are in line with parts of the literature suggesting that governments are responsive to the preferences of citizens, harmonious with normative democratic theory. However, I also show that the condition that democratic governments should be equally responsive is grossly violated. I anticipated responsiveness to be tilted towards the preferences of the rich for several reasons. The rich are more likely to vote, donate money to campaigns, and partake in other ways in politics. Since it is important for how elected officials perceive the opinions of the electorate and what societal groups the officials are incentivised to listen to, political participation is critical for how the interests of citizens are represented. Furthermore, representatives tend to be better-off than the average citizen and have higher-class backgrounds, thus making them more likely to make decisions that are favourable for upper class citizens. Moreover, the interests of the wealthy tend to be better organized, and the role of money in politics should work to the disadvantage of the less privileged.

The results show that government spending is clearly much more responsive to the preferences of the highest income quintile compared to other income groups. This was especially apparent when comparing the low-income and the high-income quintiles. Strikingly, also the middle-income showed to be worse represented, although this finding is less robust. Thus, this study corroborates previous findings indicating vast systemic inequality based on income. Moreover, although I found support for the first hypothesis by looking at general responsiveness, this result challenges the median voter theorem. Since such inequality of representation constitutes a serious violation of a core democratic value, my results corroborate the need for further investigation into the factors that foster or alleviate these inequalities.

6.2 Does direct democracy affect policy responsiveness?

The main research question of this thesis is pertained to whether direct democratic institutions affect responsiveness and political equality. Focusing on the presence of bottom-up direct democratic mechanisms, I presented theoretical arguments in chapter 3 leading to expectations that such mechanisms may synchronise preferences with policy output. Direct democratic

institutions enable the median voter to veto unpopular decisions by promoting initiatives. This could cause politicians to anticipate vetoes and thus enact policies closer to the preferences of the median voter. Moreover, the literature on participative democracy argues that additional opportunities to participate increase engagement in politics. However, I find no support for the hypothesis that direct democracy increases responsiveness. Furthermore, as use of these mechanisms may be important for them to be effective, I also considered whether frequency of referendums had any impact on responsiveness, but the results did not show any discernible effect.

Moreover, as few studies have studied the impact of direct democratic institutions on unequal representation, I sought to fill this gap in the literature. I argued that such mechanisms could reduce representational inequalities through circumventing biased legislatures and higher political engagement among traditionally disadvantaged groups. It could also increase existing inequalities because narrow interest groups capture these mechanisms or because higher demands of participation in direct democracy would imply costs that weigh more heavily for the poor than the rich, thus widening the participation gap between the rich and the poor. However, I find no clear implications of direct democratic mechanisms for responsiveness, suggesting that their presence neither increases nor decreases representational inequalities considerably. There were contrasting expectations to whether this would happen or not, and in this analysis, I am unable to disentangle quite what these null findings may suggest. One potential explanation is that the various factors that are theorized to be at play affect responsiveness in different directions. These different factors may neutralize each other, thus resulting in no clear effects.

In sum, I found no effect of direct democratic institutions on general or unequal responsiveness. Obviously, as the scope of this study is limited to the national level, this does not mean that direct democracy in general does not affect responsiveness. The theoretical arguments may not apply on the national level because these institutions just are not utilized as much on this level as is assumed. In chapter 3, I suggested that merely the presence of strong bottom-up institutions could be enough to make representatives take more popular decisions because representatives anticipate vetoes. However, there may be need of a stronger tradition of citizens making use of initiatives when their views are overlooked for the threat of a veto to become effective. The use of existing mechanisms varies between countries and the impact may therefore have been less prevailing in some countries where there are legal provisions for direct democratic institutions.

6.3 Limitations

Like in every study, my analyses are bound to have some weaknesses attributed to them. One of them has to do with measurement of policy preferences and policy change. Public spending is widely employed as a measure of policy output since it is difficult to construct alternative measurements that allow broad cross-national studies on the topic. But, as discussed in chapter 4, this measure is suboptimal. For instance, because the budget also involves costs caused by unexpected events and decisions made by previous governments, the government is not in total control of its spending. Another problem is that in my approach of measuring the opinion-policy link, we do not get any indication of to what degree the different issues covered are viewed as important by citizens. In the future, scholars could develop new measures of policy change and discover new ways of taking issue salience into account.

Another issue that is bound to arise when researching differential responsiveness in this design is that because the preferences of different income groups are so similar, multicollinearity becomes a problem. This could imply measurement errors, and precautions should therefore be made about the results regarding differential responsiveness. To deal with multicollinearity, I checked for robustness and thereby showed that at least the findings showing differential responsiveness between the rich and poor is robust, while the evidence for differences between the rich and middle-income group is somewhat less certain.

In chapter 4, I discuss some important conditions that should be fulfilled to express some degree of confidence that a causal relationship does exist between the variables examined in this analysis. I argue that because the dependent variable is specified in policy *change* following the survey waves, this study does better than many other empirical works in the literature when it comes to the endogeneity problem. On the other hand, because I rely on pooled spending data covering a variety of areas of government, it is difficult to control for every relevant variable. Moreover, Achen and Bartels (2017, 312-313) claim that voters usually are either not listening to the policy views of parties or merely thinking what their party tells them to think. Hence, the views of the public will approximate the preferences of the politicians. Covariance between public preferences and policy would therefore appear, not because citizens decide on policies through representative democratic institutions but because they adopt the views of their representatives. This is an explanation that strikes doubt about causality, and it should be seriously considered when researching responsiveness.

6.4 Suggestions for further research

Unequal responsiveness is a growing field of research that requires further attention. Within the cross-sectional framework, future studies could investigate the influence of systemic level explanations like welfare state types, electoral systems, and levels of economic inequality. Only a limited number of previous studies have sought to understand more about some of these contextual factors (Rosset, Giger, and Bernauer 2013; Bernauer, Giger, and Rosset 2015; Bartels 2015; Schakel, Burgoon, and Hakhverdian 2020).

Further, there is still an ongoing debate on the mechanisms causing unequal representation. While Carnes (2013) stresses descriptive representation as a cause, Gilens (2012) points to the role of money in politics as the most important cause. Because of this debate, these factors are interesting topics for further research.

One might also want to study representation with respect to other inequalities than income, for example education. Higher educated citizens tend to dominate in political participation, civil society and political office (Bovens and Wille 2017). Moreover, the role of education could also be taken into consideration in studies on unequal representation with respect to income. Since higher-income citizens tend to be better educated, this is often regarded as an important explanation for why higher-income groups are better represented.

Furthermore, cross-sectional research on responsiveness usually uses government expenditures as dependent variable. To strengthen validity, researchers may try to develop new or employ existing better qualified measurements of policy output than expenditures (see e.g. Schakel, Burgoon, and Hakhverdian 2020).

Previous studies have mainly focused on comparing the influence of the rich and the poor, but future research concerning unequal representation should also consider the median voter and the middle-income groups. Previous country-level studies as well as this thesis have indicated that also the middle-income group tend to have their interests undermined by the influence of the rich. Although analyses seeking to investigate responsiveness to the preferences of the middle-income group or the median voter up against the preferences of the rich tend to be more troubled with multicollinearity, they can provide valuable information on inequality in representation.

Finally, this study follows a research tradition that relies exclusively on quantitative methods. While the application of these methods is a valuable source of knowledge, qualitative work may be useful when examining the causal mechanisms behind unequal representation.

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Appendix

A: Direct democratic institutions and referendums

Country	Year	Full-scale	Agenda	Bottom-up	Referendums
Australia	1986 - 2007	0	0	0	0
Australia	2017	0	0	0	1
Canada	1996 - 2006	0	0	0	0
Switzerland	1998	1	0	1	10
Switzerland	2007	1	0	1	2
Switzerland	2017	1	0	1	7
Czech Republic	1996 - 2016	0	0	0	0
Germany	1996 - 2016	0	0	0	0
Denmark	2016	0	0	0	0
Spain	1996 - 2016	0	1	1	0
Finland	2016	0	1	1	0
France	1997	0	0	0	0
France	2006	0	0	0	1
France	2016	0	0	0	0
Great Britain	1985 - 2006	0	0	0	0
Great Britain	2016	0	0	0	1
Hungary	1996	1	1	2	0
Hungary	2006	1	1	2	0
Hungary	2016	1	0	1	1
Ireland	1996	0	0	0	1
Ireland	2006	0	0	0	0
Israel	2007 - 2016	0	0	0	0
Iceland	2017	0	0	0	0
Italy	1985	0.5	1	1.5	1
Italy	1991	0.5	1	1.5	1
Italy	1996	0.5	1	1.5	0
Japan	1996 - 2016	0	0	0	0
South Korea	2016	0	0	0	0
Lithuania	2016	1	1	2	0
Latvia	2007	1	1	2	2
Latvia	2016	1	1	2	0
Norway	1990 - 2016	0	0	0	0
New Zealand	1997	1	0	1	1
New Zealand	2006	1	0	1	0
New Zealand	2016	1	0	1	1
Poland	1997	0	1	1	1
Poland	2008	0	1	1	0
Sweden	1996	0	0	0	0
Sweden	2006	0	0	0	1
Sweden	2016	0	0	0	0
Slovenia	1996	0.5	1	1.5	1
Slovenia	2006 - 2016	0.5	1	1.5	0
Slovakia	2016	1	1	2	0
United States	1985 - 2016	0	0	0	0

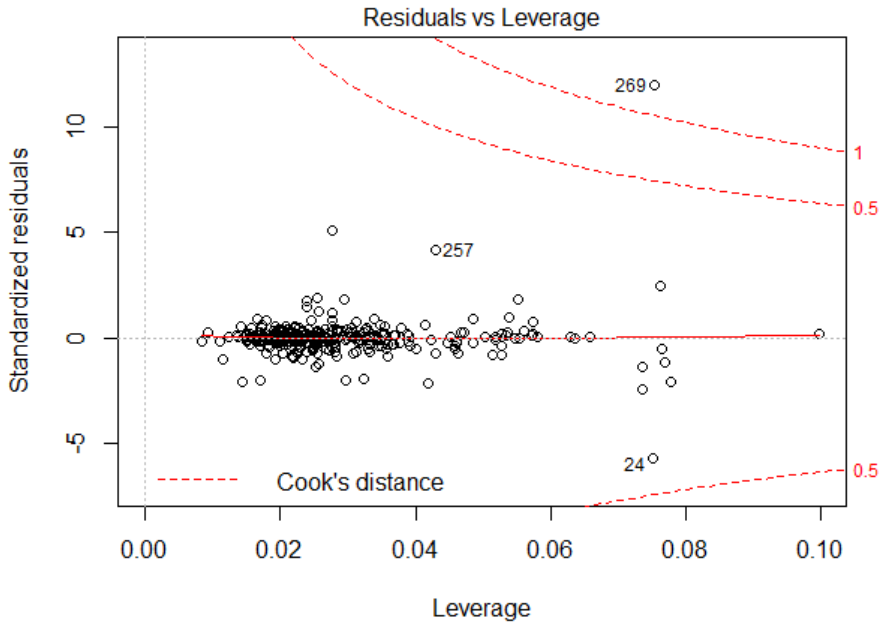
B: General responsiveness with changes in spending during the two and three following years as dependent variable

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Overall spending preferences	0.084***	0.062**	0.083**	0.139**		0.068
	(0.026)	(0.026)	(0.034)	(0.056)		(0.085)
Middle-income spending preferences					0.116**	
					(0.052)	
Δ GDP (%)	-0.402*	0.257	0.191	0.146	0.167	-0.217
	(0.214)	(0.307)	(0.315)	(0.311)	(0.310)	(0.216)
GDP per capita	0.00004	0.0001*	0.0001*	0.0001*	0.0001*	0.0003***
	(0.00005)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Δ Unemployment rate (%)		0.101***	0.089**	0.080**	0.083**	0.038
		(0.037)	(0.038)	(0.037)	(0.037)	(0.030)
Post-communism		0.866	1.274	0.268	0.570	-0.371
		(2.252)	(2.389)	(2.366)	(2.347)	(3.777)
Government ideology			0.013	0.018	0.019	0.007
			(0.058)	(0.059)	(0.059)	(0.079)
Veto players			-0.045	-0.021	-0.044	-0.310*
			(0.114)	(0.121)	(0.120)	(0.161)
Spending (%)			-0.288	-1.803**	-1.804**	-3.337***
			(0.351)	(0.724)	(0.725)	(1.101)
Defence				-0.131	-0.413	-4.216
				(2.919)	(2.911)	(4.357)
Education				-1.882	-0.929	8.013
				(5.475)	(5.451)	(7.866)
Environment				-6.979*	-6.251	-4.731
				(3.928)	(3.886)	(5.689)
Health				1.428	2.396	13.928*
				(5.671)	(5.644)	(8.199)
Law and order				-6.650*	-6.103	-3.101
				(3.792)	(3.786)	(5.390)
Old age pensions				9.005	9.920	24.295**
				(7.036)	(7.025)	(9.734)
Unemployment benefits				-7.851**	-7.761**	11.203**
				(3.552)	(3.561)	(5.071)
Constant	-0.369	-6.131*	-5.859	-0.355	-0.521	1.671
	(2.436)	(3.550)	(3.974)	(4.451)	(4.450)	(5.771)
N	336	329	303	303	303	246
N of countries	25	25	22	22	22	20
N of country-years	161	161	147	147	147	131
Adjusted R-squared	0.042	0.057	0.049	0.073	0.070	0.181

Note: Latvia-unemployment benefits-2007 was dropped as it did not fit with the models and had high leverage. In models 1-5 I use a two-year spending change DV, while model 6 includes spending change over three years.

*p<0.1; **p<0.05; ***p<0.01

C: Cook's distance plot corresponding to regression models with two-year spending changes



Plot of Cook's distance lines for models covering responsiveness with two-year spending changes. The plot shows that Latvia-Unemployment benefits-2007 (269) is outside of the Cook's distance lines, while Latvia-Environment-2007 (24) is close to the inner 0.5 line. The leverage for the former case was unreasonably high, and when the it was removed the spending preferences coefficients went from being significant in some of the models to being consistently strongly significant in all models. The latter case is kept because the coefficients remained roughly the same without it. Although this plot is based on the general responsiveness models, it also applies to the differential responsiveness models as well as the model with three-year spending change as dependent variable.

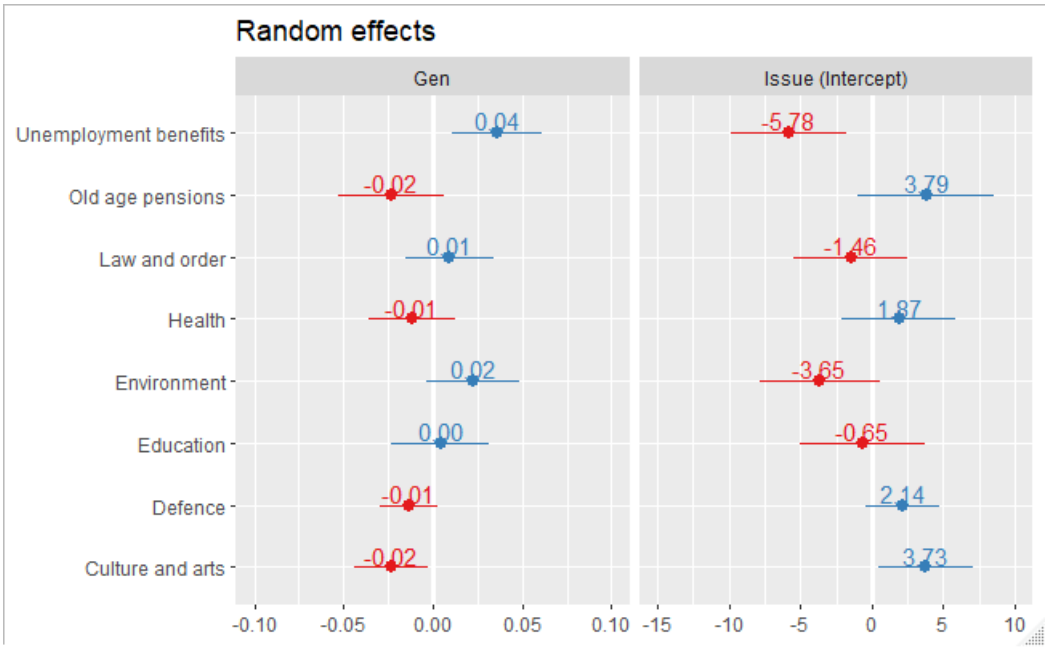
D: General responsiveness - random effects models

	Dependent variable:				
	Δ Government spending (%)				
	(1)	(2)	(3)	(4)	(5)
Overall spending preferences	0.041***	0.031**	0.040**	0.056*	
	(0.014)	(0.014)	(0.019)	(0.030)	
Middle-income spending preferences					0.051*
					(0.028)
Δ GDP (%)	-0.650***	-0.117	-0.129	-0.169	-0.168
	(0.182)	(0.228)	(0.251)	(0.253)	(0.253)
GDP per capita	-0.00001	0.00002	0.00003	0.00003	0.00003
	(0.00002)	(0.00003)	(0.00004)	(0.00004)	(0.00004)
Δ Unemployment rate (%)		0.122***	0.131***	0.125***	0.125***
		(0.035)	(0.040)	(0.040)	(0.040)
Post-communism		1.096	1.358	1.143	1.198
		(1.138)	(1.365)	(1.391)	(1.386)
Government ideology			-0.007	-0.011	-0.010
			(0.027)	(0.027)	(0.027)
Veto players			-0.029	-0.027	-0.034
			(0.070)	(0.071)	(0.071)
Spending (%)			-0.202	-0.794**	-0.793**
			(0.192)	(0.393)	(0.394)
Issue dummies				Yes	Yes
Constant	0.351	-1.440	-1.314	0.699	0.709
	(1.062)	(1.414)	(1.969)	(2.310)	(2.312)
Observations	423	415	358	358	358
R^2	0.047	0.063	0.075	0.098	0.098
Adjusted R^2	0.041	0.052	0.054	0.059	0.058
F Statistic	20.864***	27.703***	28.453***	37.259***	37.074***
Note:					*p**p***p<0.01

E: Regression table corresponding to figure 5.1 and appendix F

	Δ Government spending (%)			
	(1)	(2)	(3)	(4)
Predictors	One-year change		Two-year change	
(Intercept)	0.01	-0.16	-8.21	-8.65*
	(3.09)	(3.20)	(5.03)	(5.08)
Average spending preferences	0.04**	0.05*	0.09**	0.10**
	(0.02)	(0.03)	(0.04)	(0.04)
Δ GDP (%)	-0.05	-0.10	0.35	0.34
	(0.26)	(0.26)	(0.24)	(0.24)
GDP per capita	0.00	0.00	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
Δ Unemployment rate (%)	0.15***	0.14***	0.06*	0.06*
	(0.04)	(0.04)	(0.03)	(0.03)
Post-communism	1.85	1.90	0.61	0.75
	(1.73)	(1.71)	(2.62)	(2.62)
Government ideology	-0.00	-0.01	0.05	0.04
	(0.03)	(0.03)	(0.05)	(0.05)
Veto players	-0.02	-0.02	-0.03	-0.03
	(0.07)	(0.07)	(0.11)	(0.11)
Spending (%)	-0.21	-0.27	-0.65	-0.54
	(0.19)	(0.20)	(0.45)	(0.43)
Wave 2	-1.16	-1.12	4.62	4.48
	(3.54)	(3.52)	(5.08)	(5.08)
Wave 3	-2.48	-2.25	-1.36	-1.43
	(2.88)	(2.85)	(4.20)	(4.20)
Wave 4	-2.72	-2.45	0.77	0.71
	(3.23)	(3.20)	(4.79)	(4.79)
Wave 5	-1.73	-1.49	1.63	1.52
	(3.23)	(3.20)	(4.81)	(4.82)
LVu96			268.24***	267.91***
			(12.07)	(12.06)
LVr07			72.30***	73.33***
			(12.08)	(12.01)
HUe96			107.97***	107.59***
			(11.66)	(11.66)
ESu07			102.07***	101.14***
			(11.84)	(11.81)
Random Effects				
σ^2	62.56	61.21	129.34	129.67
τ_{00}	0.00 $_{\text{Issue}}$	5.03 $_{\text{Issue}}$	15.67 $_{\text{Issue}}$	18.06 $_{\text{Issue}}$
τ_{11}		0.00 $_{\text{Issue.Gen}}$		0.00 $_{\text{Issue.Gen}}$
ρ_{01}		-1.00 $_{\text{Issue}}$		-1.00 $_{\text{Issue}}$
N	8 $_{\text{Issue}}$	8 $_{\text{Issue}}$	8 $_{\text{Issue}}$	8 $_{\text{Issue}}$
Observations	358	358	304	304
AIC	2526.667	2530.177	2364.507	2368.275
			*p<0.1 **p<0.05 ***p<0.01	

F: Issue responsiveness with two-year spending change as dependent variable



G: Differential responsiveness with spending changes in the following year as dependent variable

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Low-income spending preferences	-0.023 (0.031)	-0.037 (0.030)	-0.016 (0.038)			
High-income spending preferences	0.064** (0.030)	0.068** (0.029)	0.053 (0.033)			
Rich minus poor				0.055* (0.029)	0.052 (0.034)	0.055 (0.048)
Δ GDP (%)	-0.636*** (0.222)	-0.093 (0.267)	-0.117 (0.284)	-0.047 (0.269)	-0.040 (0.287)	-0.066 (0.283)
GDP per capita	-0.00000 (0.00002)	0.00002 (0.00003)	0.00003 (0.00004)	0.00002 (0.00003)	0.00004 (0.00004)	0.00003 (0.00004)
Δ Unemployment rate (%)		0.124*** (0.044)	0.131*** (0.048)	0.129*** (0.044)	0.142*** (0.049)	0.139*** (0.048)
Post-communism		0.932 (1.138)	1.263 (1.330)	1.194 (1.154)	1.716 (1.334)	1.470 (1.357)
Government ideology			-0.008 (0.026)		-0.006 (0.026)	-0.009 (0.026)
Veto players			-0.033 (0.064)		-0.046 (0.063)	-0.054 (0.060)
Spending (%)			-0.132 (0.186)		0.102 (0.147)	-0.817** (0.349)
Issue dummies						Yes
Constant	0.545	-1.124	-1.163	-0.584	-1.387	0.128

	(1.170)	(1.336)	(1.757)	(1.318)	(1.766)	(2.046)
N	423	415	358	423	415	358
N of countries	27	26	22	27	26	22
N of country-issues	188	187	160	188	187	160
Adjusted R-squared	0.044	0.057	0.055	0.048	0.047	0.052
Note:						
						*p<0.1; **p<0.05; ***p<0.01

H: Differential responsiveness with spending changes in the two following years as dependent variable

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Low-income spending	-0.038	-0.050	-0.049			
preferences	(0.065)	(0.065)	(0.080)			
High-income spending	0.127**	0.118*	0.130*			
preferences	(0.064)	(0.064)	(0.069)			
Rich minus poor				0.092	0.130*	0.237**
				(0.063)	(0.070)	(0.099)
Δ GDP (%)	-0.391*	0.261	0.194	0.311	0.297	0.323
	(0.213)	(0.306)	(0.313)	(0.307)	(0.316)	(0.308)
GDP per capita	0.00004	0.0001*	0.0001*	0.0001*	0.0002**	0.0001*
	(0.00005)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Δ Unemployment rate (%)		0.100***	0.088**	0.109***	0.102***	0.102***
		(0.037)	(0.038)	(0.037)	(0.038)	(0.037)
Post-communism		0.565	1.024		1.943	0.830
		(2.268)	(2.397)		(2.394)	(2.368)
Government ideology			0.012		0.013	0.028
			(0.058)		(0.059)	(0.058)
Veto players			-0.056		-0.093	-0.125
			(0.116)		(0.116)	(0.117)
Spending (%)			-0.142		0.399	-1.845**
			(0.381)		(0.302)	(0.720)
Issue dummies						Yes
Constant	-0.034	-5.508	-5.430	-3.554	-6.062	-2.204
	(2.459)	(3.607)	(3.974)	(2.991)	(3.990)	(4.413)
N	336	329	303	329	303	303
N of countries	27	26	22	26	22	22
N of country-issues	161	161	147	161	147	147
Adjusted R-squared	0.048	0.063	0.055	0.051	0.042	0.071
Note: Latvia-unemployment benefits-2007 was dropped as it did not fit with the models and had high leverage.						
						*p<0.1; **p<0.05; ***p<0.01

I: Differential responsiveness with random effects models

	Dependent variable:					
	Δ Government spending (%)					
	One-year change			Two-year change		
	(1)	(2)	(3)	(4)	(5)	(6)
Low-income spending preferences	-0.041	-0.045	-0.016	-0.019	-0.022	-0.050
	(0.038)	(0.037)	(0.048)	(0.072)	(0.070)	(0.087)
High-income spending preferences	0.080**	0.077**	0.063	0.128*	0.117*	0.151**
	(0.036)	(0.035)	(0.042)	(0.069)	(0.068)	(0.076)
Δ GDP (%)	-0.636***	-0.069	-0.153	-0.838***	0.016	-0.066
	(0.220)	(0.271)	(0.305)	(0.186)	(0.307)	(0.328)
GDP per capita	-0.00002	0.00002	0.00000	-0.00004	0.00004	0.00003
	(0.00003)	(0.00003)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Δ Unemployment rate (%)		0.135***	0.133***		0.137***	0.124***
		(0.040)	(0.046)		(0.038)	(0.041)
Post-communism		2.383	2.245		-0.793	-0.637
		(1.469)	(1.723)		(2.966)	(3.213)
Government ideology			-0.038			-0.024
			(0.031)			(0.066)
Veto players			0.0001			-0.048
			(0.093)			(0.166)
Spending (%)			-0.172			0.191
			(0.262)			(0.482)
Constant	1.650	-1.191	-0.386	3.943	-2.625	-2.161
	(1.428)	(1.766)	(2.421)	(2.758)	(3.937)	(4.609)
Observations	248	247	211	192	191	176
R^2	0.064	0.104	0.116	0.156	0.212	0.220
Adjusted R^2	0.048	0.081	0.077	0.138	0.186	0.177
F Statistic	16.568***	27.813***	26.430***	34.480***	49.408***	46.741***
Note:						*p **p ***p<0.01

J: Differential responsiveness between high- and middle- income group – two-year spending change

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Middle-income spending preferences	-0.096	-0.092	-0.065			
	(0.209)	(0.206)	(0.207)			
High-income spending preferences	0.232	0.178	0.176			
	(0.222)	(0.220)	(0.231)			
Rich minus middle				0.015	-0.001	0.215
				(0.131)	(0.157)	(0.192)
Δ GDP (%)	-1.825*	-0.181	-0.333	-0.148	-0.144	-0.127
	(0.956)	(0.787)	(0.785)	(0.396)	(0.412)	(0.405)
GDP per capita	-0.0002	0.00004	-0.0001	0.0001	0.0001	0.0001
	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0001)	(0.0001)

Δ Unemployment rate (%)		0.265*	0.252*	0.144***	0.138***	0.140***
		(0.145)	(0.149)	(0.045)	(0.046)	(0.045)
Post-communism		2.833	1.023		3.417	2.004
		(4.482)	(5.020)		(3.429)	(3.474)
Government ideology			-0.125		0.001	0.014
			(0.195)		(0.076)	(0.075)
Veto players			0.042		-0.062	-0.079
			(0.593)		(0.201)	(0.198)
Spending (%)			-0.541		-0.103	-2.395**
			(0.785)		(0.422)	(0.991)
Issue dummies						Yes
Constant	16.813*	0.309	5.459	0.361	-1.918	1.133
	(9.794)	(6.967)	(9.533)	(3.989)	(6.042)	(6.596)
N	152	150	141	330	304	304
N of countries						
N of country-issues	101	100	93	162	148	148
R-squared	0.129	0.162	0.146	0.093	0.081	0.089

Note: Models 1-3 only include cases in which the preference difference between the middle- and the high-income groups is above 7.

*p<0.1; **p<0.05; ***p<0.01

K: Direct democratic mechanisms and general responsiveness

	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
	Overall preferences	Bottom-up direct democratic mechanisms			Full-scale initiative	Agenda intiative
Overall spending preferences	0.056**	0.046***	0.053***	0.070**	0.065**	0.067**
	(0.028)	(0.016)	(0.020)	(0.031)	(0.029)	(0.031)
Direct democratic mechanisms		0.993	1.244	1.184		
		(0.691)	(0.843)	(0.842)		
Full-scale initiative					1.593	
					(1.329)	
Agenda initiative						1.852
						(1.422)
Spending preferences X DDM		-0.030	-0.033*	-0.037*		
		(0.018)	(0.020)	(0.020)		
Spending preferences X FSI					-0.048	
					(0.033)	
Spending preferences X AI						-0.056
						(0.034)
Δ GDP (%)	-0.169	-0.150	-0.128	-0.180	-0.167	-0.183
	(0.283)	(0.270)	(0.289)	(0.288)	(0.287)	(0.285)
GDP per capita	0.00003	-0.00000	0.00003	0.00003	0.00003	0.00003
	(0.00004)	(0.00002)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Δ Unemployment rate (%)	0.125**	0.115***	0.131***	0.126***	0.125***	0.126***
	(0.048)	(0.042)	(0.048)	(0.048)	(0.047)	(0.048)
Post-communism	1.143		1.116	1.037	1.033	1.065

	(1.320)		(1.503)	(1.494)	(1.594)	(1.309)
Government ideology	-0.011		-0.007	-0.012	-0.011	-0.013
	(0.026)		(0.026)	(0.026)	(0.026)	(0.027)
Veto players	-0.027		-0.047	-0.043	-0.051	-0.025
	(0.062)		(0.066)	(0.064)	(0.064)	(0.065)
Spending (%)	-0.794**		-0.164	-0.779**	-0.788**	-0.777**
	(0.353)		(0.171)	(0.349)	(0.349)	(0.350)
Issue dummies	Yes			Yes	Yes	Yes
Constant	0.699	-0.949	-1.760	0.585	0.646	0.545
	(2.037)	(1.255)	(1.782)	(2.055)	(2.002)	(2.184)
N	358	415	358	358	358	358
N of countries	22	26	22	22	22	22
N of country-years	160	187	160	160	160	160
Adjusted R-squared	0.059	0.053	0.056	0.061	0.058	0.060
Note:						*p<0.1; **p<0.05; ***p<0.01

L: Direct democratic mechanisms and responsiveness- two-year spending change

	Dependent variable:			
	Δ Government spending (%)			
	(1)	(2)	(3)	(4)
	Overall preferences	Bottom-up DDM	Full-scale initiative	Agenda intiative
Overall spending	0.139**	0.128**	0.134**	0.128**
preferences	(0.056)	(0.060)	(0.057)	(0.060)
Direct democratic		2.017		
mechanisms		(1.918)		
Full-scale initiative			0.904	
			(3.072)	
Agenda initiative				4.136
				(3.010)
Spending		-0.008		
preferences X DDM		(0.043)		
Spending			0.018	
preferences X FSI			(0.074)	
Spending				-0.040
preferences X AI				(0.063)
Controls	Yes	Yes	Yes	Yes
Constant	-0.355	-2.006	-0.745	-2.396
	(4.451)	(4.512)	(4.429)	(4.602)
N	303	303	303	303
N of countries	22	22	22	22
N of country-issues	147	147	147	147
Adjusted R-squared	0.073	0.070	0.068	0.072
Note: Latvia-unemployment benefits-2007 was dropped as it did not fit with the models and had high leverage.				*p<0.1; **p<0.05; ***p<0.01

M: Referendums and general responsiveness

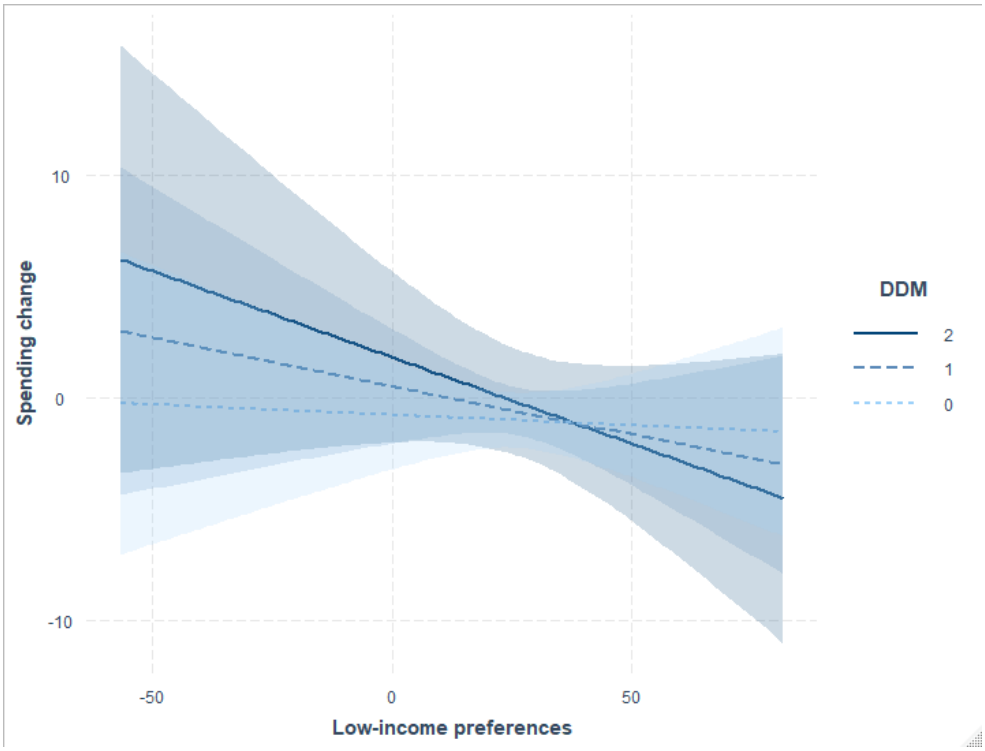
	Dependent variable:	
	Δ Government spending (%)	
	(1)	(2)
	One-year spending change	Two-year spending change
Overall spending preferences	0.052*	0.120**
	(0.029)	(0.056)
Referendums	-0.241	-1.382
	(0.244)	(0.862)
Spending preferences X referendums	0.005	0.005
	(0.009)	(0.027)
Controls	Yes	Yes
Constant	0.753	-0.652
	(2.045)	(4.448)
N	358	358
N of countries	22	22
N of country-issues	160	160
Adjusted R-squared	0.055	0.084
Note:		*p<0.1; **p<0.05; ***p<0.01

N: Direct democratic institutions and differential responsiveness

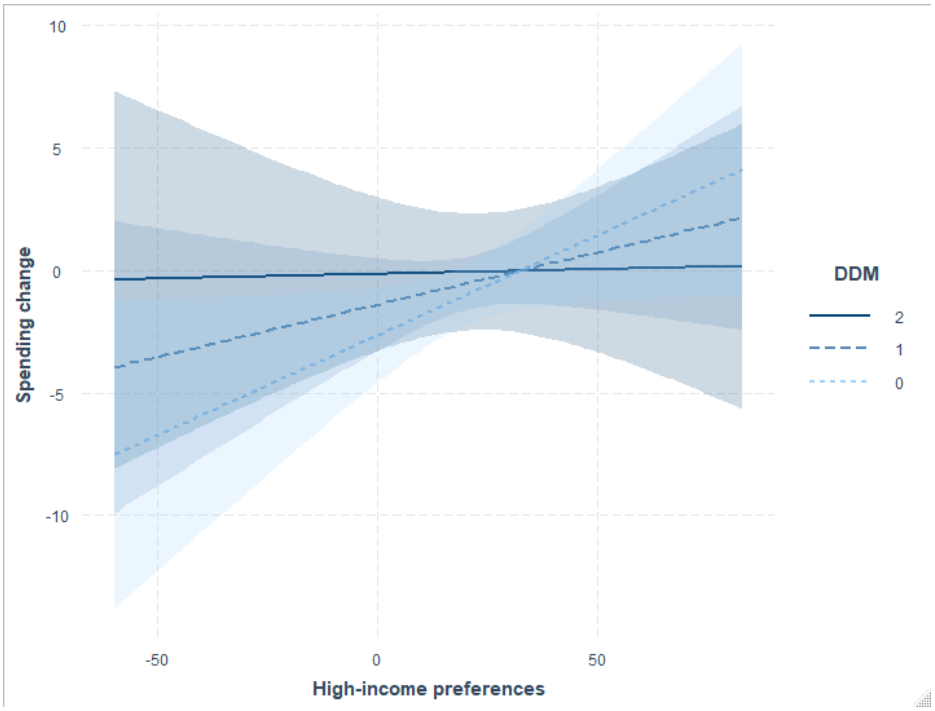
	Dependent variable:					
	Δ Government spending (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Low-income spending preferences	-0.009	-0.029	-0.033			
	(0.038)	(0.038)	(0.045)			
High-income spending preferences	0.059*	0.082**	0.086**			
	(0.033)	(0.036)	(0.042)			
Rich minus poor				0.071**	0.057	0.061
				(0.035)	(0.042)	(0.060)
Direct democratic mechanisms	1.298	1.248	1.183	0.117	0.544	0.451
	(0.849)	(0.797)	(0.860)	(0.587)	(0.810)	(0.817)
Low-income preferences X DDM	-0.034*		0.009			
	(0.019)		(0.044)			
High-income preferences X DDM		-0.039**	-0.047			
		(0.019)	(0.043)			
Rich minus poor X DDM				-0.029	-0.024	-0.018
				(0.040)	(0.048)	(0.049)
Δ GDP (%)	-0.105	-0.120	-0.122	-0.060	-0.016	-0.040
	(0.287)	(0.288)	(0.289)	(0.272)	(0.253)	(0.255)
GDP per capita	0.00003	0.00003	0.00003	0.00000	0.00004	0.00004
	(0.00004)	(0.00004)	(0.00004)	(0.00002)	(0.00004)	(0.00005)
Δ Unemployment rate (%)	0.133***	0.131***	0.131***	0.122***	0.141***	0.139***
	(0.048)	(0.048)	(0.048)	(0.042)	(0.039)	(0.040)
Post-communism	1.098	0.972	0.936		1.010	0.964
	(1.504)	(1.501)	(1.504)		(1.501)	(1.548)
Government ideology	-0.009	-0.009	-0.009		-0.003	-0.006

	(0.026)	(0.026)	(0.026)		(0.027)	(0.028)
Veto players	-0.050	-0.053	-0.053		-0.063	-0.068
	(0.065)	(0.066)	(0.066)		(0.073)	(0.073)
Spending (%)	-0.082	-0.067	-0.066			-0.788**
	(0.184)	(0.185)	(0.185)			(0.398)
Issue dummies						Yes
Constant	-1.683	-1.467	-1.409	0.202	-1.264	-0.146
	(1.782)	(1.771)	(1.790)	(1.268)	(1.985)	(2.384)
N	358	358	358	415	361	358
N of countries	22	22	22	26	22	22
N of country-issues	160	160	160	187	162	160
Adjusted R-squared	0.056	0.059	0.056	0.044	0.047	0.048
Note:						*p<0.1; **p<0.05; ***p<0.01

O: Marginal effects of low-income preferences conditioned on direct democratic mechanisms (corresponding to model 1 in regression table above)



P: Marginal effects of high-income preferences conditioned on direct democratic mechanisms (corresponding to model 2 in regression table above)



Q: Direct democratic mechanisms and unequal responsiveness – two-year spending change

	Dependent variable:			
	Δ Government spending (%)			
	(1)	(2)	(3)	(4)
Low-income spending preferences	-0.050	-0.051	-0.080	
	(0.079)	(0.081)	(0.090)	
High-income spending preferences	0.122*	0.128*	0.156*	
	(0.071)	(0.077)	(0.086)	
Rich minus poor				0.239**
				(0.118)
Direct democratic mechanisms	1.955	2.248	1.718	2.131
	(1.973)	(1.794)	(2.036)	(1.716)
Low-income spending preferences X DDM	0.006		0.071	
	(0.045)		(0.112)	
High-income spending preferences X DDM		-0.006	-0.069	
		(0.041)	(0.102)	
Rich minus poor X DDM				-0.032
				(0.103)
Controls	Yes	Yes	Yes	Yes
Issue dummies	No	No	No	Yes
Constant	-7.270*	-7.290*	-6.834*	-3.916
	(4.016)	(4.022)	(4.057)	(4.901)
N	303	303	303	303
N of countries	22	22	22	22
N of country-issues	147	147	147	147
Adjusted R-squared	0.053	0.053	0.051	0.071
Note:				*p<0.1; **p<0.05; ***p<0.01